Draft Environmental Impact Report

Sienna Solar and Storage Project

SCH No. 2022080518

San Bernardino County, California

August 2023

Prepared for

County of San Bernardino

385 North Arrowhead Avenue, 1st Floor

San Bernardino, CA 92415

Prepared by

HDR

3230 El Camino Real, Suite 200

Irvine, CA 92602

This page is intentionally blank.

Table of Contents

Executive Summary ES-1
Project Overview ES-1
Project Location ES-2
Sienna Project ES-2
Calcite Substation ES-2
Purpose of an EIR ES-2
Eliminated from Further Review in Notice of Preparation ES-2
Summary of Significant Impacts and Mitigation Measures that Reduce or Avoid the Significant Impacts ES-3
Areas of Controversy and Issues to be Resolved ES-3
Project Alternatives ES-85
Alternatives Carried Forward ES-86

1 Introduction and Purpose 1-1
1.1 Purpose of the Environmental Impact Report 1-1
1.2 Availability of Reports 1-2
1.3 Format of the EIR 1-3
1.3.1 Environmental Topics Addressed 1-3
1.3.2 Areas of Controversy and Issues to be Resolved 1-4
1.3.3 Document Organization 1-4

2 Project Description 2-1
2.1 Sienna Project Location 2-2
2.2 Calcite Substation Location 2-2
2.3 Existing Site Conditions 2-2
2.3.1 Sienna Project 2-2
2.3.2 Calcite Substation 2-2
2.4 Renewable Energy Regulation 2-7
2.5 Land Use Designations and Zoning 2-7
2.5.1 Sienna Project 2-7
2.5.2 Calcite Substation 2-8
2.6 Project Objectives 2-8
2.7 Project Characteristics 2-8
2.7.1 Sienna Project 2-23
2.7.2 Calcite Substation 2-34
2.8 Construction 2-36
2.8.1 Sienna Project 2-36
2.8.2 Calcite Substation 2-37
2.9 Operations and Maintenance 2-38
2.9.1 Sienna Project 2-38
2.9.2 Calcite Substation 2-38
2.10 Features and Best Management Practices 2-38
2.10.1 Waste and Hazardous Materials Management 2-38
2.10.2 Spill Prevention and Containment 2-39
2.10.3 Wastewater/Septic System 2-39
2.10.4 Weed Management 2-39
2.10.5 Dust Control 2-39
2.10.6 Health and Safety 2-39

2.10.7 Fire Management 2-40
2.11 Decommissioning and Reclamation 2-40
2.12 Project Approvals 2-41
2.12.1 Sienna Project 2-41
2.12.2 Calcite Substation 2-41
3 Environmental Analysis, Impacts, and Mitigation 3-1
3.1 Introduction to Environmental Analysis 3-1
3.1.1 Organization of Issue Areas 3-1
3.1.2 Format of the Impact Analysis 3-1
3.2 Aesthetics 3.2-1
3.2.1 Existing Conditions 3.2-1
3.2.2 Regulatory Setting 3.2-9
3.2.3 Impacts and Mitigation Measures 3.2-12
3.3 Agricultural Resources 3.3-1
3.3.1 Existing Conditions 3.3-1
3.3.2 Regulatory Setting 3.3-4
3.3.3 Impacts and Mitigation Measures 3.3-6
3.4 Air Quality 3.4-1
3.4.1 Existing Conditions 3.4-1
3.4.2 Regulatory Setting 3.4-7
3.4.3 Impacts and Mitigation Measures 3.4-11
3.5 Biological Resources 3.5-1
3.5.1 Existing Conditions 3.5-1
3.5.2 Regulatory Setting 3.5-23
3.5.3 Impacts and Mitigation Measures 3.5-27
3.6 Cultural Resources 3.6-1
3.6.1 Existing Conditions 3.6-1
3.6.2 Regulatory Setting 3.6-6
3.6.3 Impacts and Mitigation Measures 3.6-11
3.7 Geology and Soils 3.7-1
3.7.1 Existing Conditions 3.7-1
3.7.2 Regulatory Setting 3.7-11
3.7.3 Impacts and Mitigation Measures 3.7-13
3.8 Greenhouse Gas Emissions 3.8-1
3.8.1 Environmental Setting 3.8-1
3.8.2 Regulatory Setting 3.8-4
3.8.3 Impacts Analysis 3.8-12
3.9 Hazards and Hazardous Materials 3.9-1
3.9.1 Existing Conditions 3.9-1
3.9.2 Regulatory Setting 3.9-9
3.9.3 Impacts and Mitigation Measures 3.9-16
3.10 Hydrology/Water Quality 3.10-1
3.10.1 Existing Conditions 3.10-1
3.10.2 Regulatory Setting 3.10-7
3.10.3 Impacts and Mitigation Measures 3.10-12
3.11 Land Use and Planning 3.11-1
3.11.1 Existing Conditions 3.11-1
3.11.2 Regulatory Setting 3.11-4
3.11.3 Impacts and Mitigation Measures 3.11-23
3.12 Noise and Vibration 3.12-1

3.12.1 Existing Conditions 3.12-1
3.12.2 Existing Project Area Noise Levels 3.12-4
3.12.3 Regulatory Setting 3.12-8
3.12.4 Impacts and Mitigation Measures 3.12-11
3.13 Transportation 3.13-1
3.13.1 Existing Conditions 3.13-1
3.13.2 Regulatory Setting 3.13-6
3.13.3 Impacts and Mitigation Measures 3.13-10
3.14 Tribal Cultural Resources 3.14-1
3.14.1 Existing Conditions 3.14-1
3.14.2 Regulatory Setting 3.14-3
3.14.3 Impacts and Mitigation Measures 3.14-5
3.15 Utilities and Service Systems 3.15-1
3.15.1 Existing Conditions 3.15-1
3.15.2 Regulatory Setting 3.15-7
3.15.3 Impacts and Mitigation Measures 3.15-12
4 Other CEQA Considerations 4-1
4.1 CEQA Requirements 4-1
4.2 Growth Inducing Impacts 4-1
4.2.1 Sienna Project 4-1
4.2.2 Calcite Substation 4-3
4.3 Significant and Unavoidable Impacts 4-3
4.3.1 Sienna Project 4-3
4.3.2 Calcite Substation 4-4
4.4 Significant and Irreversible Impacts 4-4
4.4.1 Sienna Project 4-4
4.4.2 Calcite Substation 4-5
5 Cumulative Impacts 5-1
5.1 Geographic Scope and Timeframe of the Cumulative Effects Analysis 5-2
5.2 Projects Contributing to Potential Cumulative Impacts 5-2
5.3 Cumulative Impact Analysis – Sienna Project 5-7
5.3.1 Aesthetics 5-7
5.3.2 Agricultural Resources 5-8
5.3.3 Air Quality 5-8
5.3.4 Biological Resources 5-9
5.3.5 Cultural Resources 5-10
5.3.6 Geology and Soils 5-10
5.3.7 Greenhouse Gas Emissions 5-11
5.3.8 Hazards and Hazardous Materials 5-11
5.3.9 Hydrology and Water Quality 5-12
5.3.10 Land Use and Planning 5-13
5.3.11 Noise and Vibration 5-13
5.3.12 Transportation 5-13
5.3.13 Tribal Cultural Resources 5-14
5.3.14 Utilities and Service Systems 5-15
5.4 Cumulative Impact Analysis – Calcite Substation 5-16
6 Effects Found Not Significant 6-1
6.1 Sienna Project 6-1
6.1.1 Forestry Resources 6-1
6.1.2 Energy 6-1

6.1.3 Mineral Resources 6-2
6.1.4 Population and Housing 6-2
6.1.5 Public Services 6-2
6.1.6 Recreation 6-4
6.1.7 Wildfire 6-4
6.2 Calcite Substation 6-5
7 Alternatives 7-1
7.1 Introduction 7-1
7.2 Criteria for Alternatives Analysis 7-1
7.3 Alternatives Considered but Rejected 7-2
7.3.1 Alternative Site 7-2
7.4 Sienna Project Alternatives Under Consideration 7-2
7.4.1 Alternative 1: No Project Alternative 7-2
7.4.2 Alternative 2: Reduced Footprint Alternative 7-6
7.5 Environmentally Superior Alternative 7-11
8 EIR Consultation and Preparation 8-1
8.1 EIR Consultation 8-1
8.1.1 Lead Agency 8-1
8.2 EIR Preparers 8-1
8.2.1 HDR 8-1
8.2.2 Technical Subconsultants 8-1
9 References 9-1

Tables

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures ES-5
Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures ES-35
Table ES-3. Comparison of Alternative Impacts to Proposed Sienna Project ES-87
Table 2-1. Sienna Solar and Storage Project Parcels 2-3
Table 2-2. Matrix of Potential Approvals Required 2-41
Table 3.4-1. Criteria Air Pollutants – Summary of Common Sources and Effects 3.4-2
Table 3.4-2. Ambient Air Quality at the Nearest Monitoring Stations 3.4-6
Table 3.4-3. Federal and State Ambient Air Quality Standards 3.4-7
Table 3.4-4. MDAQMD Air Quality Significance Thresholds 3.4-12
Table 3.4-5. Sienna Project Annual Construction Emissions – No Control Measures 3.4-19
Table 3.4-6. Sienna Project Annual Construction Emissions – With Water Control Measures 3.4-20
Table 3.4-7. Sienna Project Estimated Operational Emissions – No Control Measures 3.4-21
Table 3.4-8. Criteria Pollutant Emissions Displaced by the Sienna Project 3.4-21
Table 3.6-1. Known Cultural Resources within the Sienna Project Site 3.6-2
Table 3.6-2. Records Search Results Summary 3.6-2
Table 3.6-3. Known Built Environment Resources within the Sienna Project Site 3.6-5
Table 3.7-1. Soils Underlying the Sienna Project Site 3.7-5
Table 3.8-1. California Greenhouse Gas Emissions Inventory 2000 to 2020 ..... 3.8-3
Table 3.8-2. Estimated Construction Emissions of Greenhouse Gases 3.8-16
Table 3.8-3. Project Operation-Related Greenhouse Gas Emissions 3.8-17
Table 3.11-1. Sienna Project Consistency with Applicable County Policy Plan Policies 3.11-9
Table 3.12-1. Noise Monitoring Results in the Project Area – Short Term 3.12-5
Table 3.12-2. Project Area Noise Monitoring Results – Long Term 3.12-7
Table 3.12-3. Noise Standards for Stationary Noise Sources 3.12-9
Table 3.12-4. Noise Standards for Adjacent Mobile Noise Sources 3.12-10
Table 3.12-5. Typical Construction Equipment Noise Levels 3.12-13
Table 3.12-6. Noise Levels at Various Distances from Construction at Sienna Project Parcels 3.12-14
Table 3.12-7. Typical Construction Noise Levels from Gen-Tie Construction 3.12-14
Table 3.12-8. Cumulative Construction Noise Levels for Worst-Case Scenario 3.12-15
Table 3.12-9. Estimated Existing and Construction Vehicle Trips 3.12-16
Table 3.12-10. Construction Traffic Noise 3.12-16
Table 3.12-11. Operational Noise Levels at Nearest Sensitive Receivers 3.12-17
Table 3.13-1. Existing Intersection Operations 3.13-4
Table 3.13-2. Existing Roadway Segment Level of Service Conditions 3.13-5
Table 3.13-3. Projected Daily Construction Trips 3.13-13
Table 3.13-4. Existing Plus Project Intersection Operations 3.13-15
Table 3.13-5. Existing Plus project Roadway Segment LOS Conditions 3.13-17
Table 3.15-1. Mojave Water Agency Use (Demand) 2015 – 2020 ..... 3.15-3
Table 3.15-2. Mojave Water Agency Supply 2020 ..... 3.15-4
Table 3.15-3. Sample Parcel Water Allocations 3.15-4
Table 3.15-4. Total MWA Projected Supply and Demand Through 2055[1] 3.15-16
Table 5-1. Cumulative Projects within 10 Miles of Sienna Project 5-3
Table 5-2. Summary of Cumulative Impacts – Proposed Calcite Substation 5-16
Table 7-1. Comparison of Alternative Impacts to Proposed Sienna Project 7-12

Figures

Figure 2-1. Regional Vicinity Map 2-4
Figure 2-2. Local Vicinity Map 2-5
Figure 2-3. Site Plan (Sheet 1 of 7) 2-9
Figure 2-4. Site Plan (Sheet 2 of 7) 2-11
Figure 2-5. Site Plan (Sheet 3 of 7) 2-13
Figure 2-6. Site Plan (Sheet 4 of 7) 2-15
Figure 2-7. Site Plan (Sheet 5 of 7) 2-17
Figure 2-8. Site Plan (Sheet 6 of 7) 2-19
Figure 2-9. Site Plan (Sheet 7 of 7) 2-21
Figure 2-10. Representative Examples of Photovoltaic Panel/Mounting Configuration 2-24
Figure 2-11. Representative Examples of Battery Energy Storage Systems 2-25
Figure 2-12. Representative Examples of Typical Inverter Stations 2-26
Figure 2-13. Representative Example of Typical Substation Design 2-27
Figure 2-14. Typical Gen-Tie Structure 2-29
Figure 2-15. Typical Gen-Tie Structure 2-30
Figure 2-16. Typical Gen-Tie Structure 2-31
Figure 2-17. Conceptual Operations and Maintenance Building Area Plan 2-33
Figure 2-18. Calcite Substation 2-35
Figure 3.2-1. Regional Landscape Setting 3.2-3
Figure 3.2-2. Character Photo and Key Observation Point Locations 3.2-4
Figure 3.2-3. Visual Character of Project Area (A and B) 3.2-5
Figure 3.2-4. Visual Character of Project Area (C and D) 3.2-6
Figure 3.2-5. Visual Character of Project Area (E and F) 3.2-7
Figure 3.2-6. KOP 1 ..... 3.2-20
Figure 3.2-7. KOP 2 ..... 3.2-21
Figure 3.2-8. KOP 3 ..... 3.2-22
Figure 3.2-9. KOP 4 ..... 3.2-23
Figure 3.2-10. KOP 5 ..... 3.2-24
Figure 3.2-11. KOP 6 ..... 3.2-25
Figure 3.3-1. Farmland Mapping and Monitoring Program Designations 3.3-3
Figure 3.5-1. Vegetation Communities and Land Cover Types 3.5-3
Figure 3.5-2. Silver Cholla Location Map 3.5-9
Figure 3.5-3. Western Burrowing Owl Location Map 3.5-12
Figure 3.5-4. Special-Status Species Habitat 3.5-16
Figure 3.7-1. Geologic Units and Paleontological Sensitivity in the Sienna Project Area 3.7-10
Figure 3.9-1. Select Points of Interest on Sienna Project Site 3.9-5
Figure 3.9-2. Greenhouses at the Abandoned On-Site Growing Operation 3.9-6
Figure 3.9-3. Occupied Area of APN 0452-071-11 ..... 3.9-6
Figure 3.10-1. Groundwater Resources and Management Area 3.10-3
Figure 3.12-1. Noise Measurement Locations 3.12-6
Figure 3.12-2. Receiver Locations and Operational Noise Contours 3.12-19
Figure 3.13-1. Traffic Study Area Intersections 3.13-3
Figure 3.15-1. Groundwater Resources and Management Area 3.15-2
Figure 5-1. Cumulative Projects 5-5

Figures (cont'd)

Figure 7-1. Reduced Footprint Alternative 7-7

Appendices

Appendix A Notice of Preparation and Comment Letters
Appendix B Visual Resources Assessment
Appendix C Air Quality and Greenhouse Gas Study
Appendix D1 Biological Resources Assessment
Appendix D2 Biological Inventory Findings Report
Appendix E Jurisdictional Delineation Report
Appendix F Cultural Resources Assessment
Appendix G Geotechnical Study
Appendix H Paleontological Resources Assessment
Appendix I Phase I Environmental Site Assessment
Appendix J Preliminary Hydrology Study
Appendix K Noise Study
Appendix L Traffic Assessment
Appendix M Water Supply Assessment

This page is intentionally blank.

Executive Summary

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code [PRC] Section 21000 et seq., the State CEQA Guidelines (Section 15000 et seq.) as promulgated by the California Resources Agency and the Governor's Office of Planning and Research (OPR). The purpose of this environmental document is to assess the potential environmental effects associated with the Sienna Solar and Storage Project (Project) and to propose mitigation measures, where required, to reduce significant impacts.

Project Overview

99MT 8ME, LLC (Applicant) is requesting approval of a Conditional Use Permit (CUP) to develop a utility scale, solar photovoltaic (PV) electricity generation facility that would produce up to 525 megawatts (MW) of solar power and include up to 525 MW of energy storage capacity rate in a battery energy storage system (BESS) within an approximately 1,854-acre Project site.

The proposed Sienna Solar and Storage Project (herein referred to as "Sienna Project" or "solar and energy storage Project") and the Calcite Substation Project together represent the proposed Project for environmental evaluation purposes under CEQA (CEQA Guidelines Section 15378). The Sienna Project is proposed by 99MT 8ME, LLC (Applicant) and the Calcite Substation Project is proposed by Southern California Edison (SCE). The Sienna Project will interconnect at the SCE Calcite Substation (currently pending environmental clearance and construction) via a proposed overhead and/or underground 230-kV gen-tie line in addition to other ancillary facilities utilizing private and potentially public Right of Ways (ROWs). The Sienna Project will require approval by the County of San Bernardino of a Franchise Agreement for any portion of the gen-tie located within the County of San Bernardino's public ROW. Because it is a necessary infrastructure improvement to allow the Sienna Project to connect to the grid, the Calcite Substation is considered a connected project for the purposes of CEQA review.

Energy generated by the Sienna Project will be transmitted to SCE's electric grid via an inter-connection with the proposed Calcite Substation. SCE proposes to construct and operate the Calcite Substation on approximately 7 acres, with an additional 4 acres for drainage, grading and access road, located on a portion of a 75-acre parcel of land on the west and east sides of State Route (SR) 247, directly north of Haynes Road, in San Bernardino County. The Calcite Substation is a necessary infrastructure improvement to allow the proposed solar and energy storage Project to connect to the grid. Potential environmental impacts of the Calcite Substation Project are analyzed in the *Stagecoach Solar Project EIR* (State Clearinghouse No. 2020100234) prepared by the California State Lands Commission (CSLC). The Stagecoach Solar Project is currently in the environmental review process. Information pertaining to the Calcite Substation is incorporated by reference from the *SCE Calcite Substation Detailed Project Description* (SCE 2021) and the *Stagecoach Solar Project Draft EIR* (State Clearinghouse No. 2020100234) (California State Lands Commission 2021) pursuant to CEQA Guidelines Section 15150(a), which states:

> An EIR or Negative Declaration may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered set forth in full as part of the text of the EIR or Negative Declaration.

The Sienna Project consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as “solar energy facility”); 2) BESS; and 3) on- and off-site gen-tie line that would connect the proposed on-site substation to the point of interconnection at the SCE Calcite Substation. The SCE Calcite Substation is a related project.

Project Location

Sienna Project

The proposed Sienna Project is located on approximately 1,854-acres in the southwestern portion of the Mojave Desert and includes the Lucerne Dry Lake, in unincorporated San Bernardino County, California. The Sienna Project is predominately located east of State Route 247 (Barstow Road/SR 247), north of the unincorporated community of Lucerne Valley, with portions of the generation-interconnect (gen-tie) alternative corridors that include possible connections along Haynes Road, Huff Road, and Northside Road to the east of Barstow Road. The site is generally located approximately 35 miles south of Barstow, 45 miles northwest of the town of Yucca Valley, 15 miles southeast of the town of Apple Valley, and 20 miles north of the city of Big Bear Lake. Barstow Road would provide primary access to the Sienna Project. Land uses in the area are primarily rural residential, recreation, farmland, open space, and transportation corridors.

Calcite Substation

The proposed Calcite Substation is located northwest of the Project area, within a 75-acre parcel (APN 0453-041-07) that occupies areas land both east and west of SR 247 (Barstow Road).

Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Eliminated from Further Review in Notice of Preparation

Sienna Project

Based on the Initial Study and Notice of Preparation (IS/NOP) prepared for the Sienna Project (Appendix A of this EIR), San Bernardino County (County) has determined that the Sienna Project would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR. The rationale for eliminating these topics is discussed in Chapter 6.0, Effects Found Not Significant.

- Forestry Resources

- Energy
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Wildfire

Calcite Substation

According to Chapter 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation would have no impact or a less than significant impact on the following two environmental issue areas:

- Agriculture and Forestry Resources, and
- Mineral Resources (California State Lands Commission 2021).

Summary of Significant Impacts and Mitigation Measures that Reduce or Avoid the Significant Impacts

Based on the analysis presented in the IS/NOP and the information provided in the comments to the IS/NOP, the following environmental topics are analyzed in this EIR:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems

Table ES-1 summarizes existing environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the Sienna Project.

Table ES-2 summarizes existing environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the Calcite Substation Project.

Areas of Controversy and Issues to be Resolved

Areas of Concern

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy as well as issues to be resolved known to the Lead Agency, including issues raised by other agencies and

the public. Through the environmental review process for this Project, other areas of concern and issues to be resolved include:

- Conversion of Important Farmland to non-agricultural uses
- Damage to crops/vegetation
- Potential impacts on habitats and special-status plant and wildlife species
- Potential impacts on hydrology, water quality, and water supply
- Potential impacts to cultural and tribal cultural resources
- Potential impacts to traffic and circulation
- Potential impacts to air quality to surrounding properties including health effects from air pollution
- Potential impacts resulting from noise
- Potential impacts to residences including the degradation of the visual character of the area
- Potential impacts of the battery energy storage system (potential fire risk and hazardous materials)

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Aesthetics			
Impact 3.1-1: Would the Project have a substantial adverse effect on a scenic vista?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.1-2: 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	No mitigation measures are required.	N/A
Impact 3.1-3: Would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.1-4: 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	No mitigation measures are required.	N/A
Agricultural Resources			
Impact 3.3-1: Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.3-2: Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact	No mitigation measures are required.	N/A
Impact 3.3-3: 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?	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Air Quality			
Impact 3.4-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.4-2: 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 (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.4-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?	Significant	**AQ-1: Valley Fever Management Plan.** Prior to ground disturbance activities, the Sienna Project 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 Sienna 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	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		construction. Evidence of training shall be provided to the San Bernardino County Land Use Services Department within 24 hours of the training session. • 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 3.4-4: Would the Project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	Less than Significant	No mitigation measures are required.	N/A
Biological Resources			
Impact 3.5-1: 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 CDFW or USFWS?	Significant	**BIO-1 Pre-Construction Rare Plant Survey.** Prior to the start of construction, a Qualified Biologist 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 special-status plant species (i.e., endangered, threatened, or California Native Plant Society CRPR 1 and 2 species) are observed during the pre-construction rare plant survey within the development area of the Sienna Project, the Sienna Project shall be designed to reduce impacts to these species through the establishment of buffers, to the extent feasible. Buffer distances will be determined by the Qualified Biologist, typically 50 feet or greater from an identified special-status plant species, unless the Qualified Biologist	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		determines a reduced buffer would suffice to avoid impacts to the species. If avoidance of special-status plant species is not feasible, a Special-Status Plant Relocation Plan shall be developed and implemented. The Special-Status Plant Relocation Plan shall address mitigation for special-status plants, including topsoil salvage to preserve seed bank and management of salvaged topsoil; seed collection, storage, possible nursery propagation, and planting; salvage and planting of bulbs as feasible; location of on-site receptor sites; land protection instruments for receptor areas; and funding mechanisms. The Special-Status Plant Relocation Plan shall include methods, monitoring, reporting, success criteria, adaptive management, and contingencies for achieving success. All special-status plant species identified on site shall be mapped onto a site-specific aerial photograph and topographic map and included on the construction, grading, fuel modification, and landscape plans. **BIO-2 Biological Monitoring.** Prior to the issuance of grading or building permits, the Project proponent shall retain a Qualified Biologist, with experience and expertise in desert species to oversee compliance with protection measures for all listed and other special-status species. If State or Federally listed species or other special status biological resources are identified on the Project area during protocol and/or preconstruction surveys, then the Qualified Biologist may need to be approved by USFWS and/or CDFW as an authorized biologist for handling listed species. The Qualified Biologist or other Qualified Biological Monitors shall be on the Project area during initial grading, ground disturbance and vegetation removal activities in natural scrub vegetation communities to monitor construction activity where that activity could directly or indirectly impact special status biological resources. The Qualified Biologist shall have the authority to halt all activities that are in violation of the special-status species protection measures. Workshall proceed only after potential hazards to special-status species are removed and the species is no longer at risk. The Qualified Biologist shall have in her/his possession a copy of all the	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		compliance measures while work is being conducted on the Project area. **BIO-3 Desert Tortoise.** To avoid construction-level impacts to desert tortoise, not more than 45 days prior to ground-disturbing activities for the construction and/or decommissioning phase(s), qualified personnel shall perform a pre-construction clearance survey for desert tortoise. If desert tortoise are not documented during seasonally time protocol desert tortoise surveys, no additional measures related to desert tortoise avoidance and minimization are recommended. If desert tortoise are documented inhabiting any portion of the Sienna Project area during presence/absence surveys, the following measures shall be implemented: • Develop a plan for desert tortoise translocation and monitoring prior to Project construction. The plan shall provide the framework for implementing the following measures, or similar measures deemed sufficient and approved during agency consultation (Note: any desert tortoise translocation plan must be reviewed and approved by CDFW and USFWS): ○ If a permanent tortoise-proof exclusion fence is practicable, a fence shall be installed around all construction areas prior to the initiation of ground disturbing activities, in coordination with a Qualified Biologist. The fence shall be constructed of 0.5-inch mesh hardware cloth and extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent desert tortoise entry. The fence shall be supported sufficiently to maintain its integrity, be checked at least monthly during construction and operations, and maintained when necessary by the Project proponent to ensure its integrity. Provisions shall be made for closing off the fence at the point of vehicle entry. Raven perching deterrents should be installed as part of the fence construction.	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		○ After fence installation, an authorized biologist shall conduct a pre- construction survey for desert tortoise within the construction site. The authorized biologist shall have the appropriate education and experience to accomplish biological monitoring and mitigation tasks and is approved by the CDFW and the USFWS. Two surveys without finding any tortoises or new tortoise sign shall occur prior to declaring the site clear of tortoises. ○ All burrows that could provide shelter for a desert tortoise shall be hand-excavated prior to ground-disturbing activities. ○ An authorized biologist shall remain on-site until all vegetation is cleared and, at a minimum, conduct site and fence inspections on a regular basis throughout construction in order to ensure Project compliance with mitigation measures. ○ A biologist shall remain on-call throughout fencing and grading activities in the event a desert tortoise wanders onto the Project area. ○ Compensatory mitigation in the form of a conservation easement or purchase of mitigation bank credits to compensate for the loss of occupied desert tortoise habitat at a minimum ratio of 1:1, with habitat of equal or greater value. **BIO-4 Construction Worker Environmental Awareness Training and Education Program.** Prior to any activity on site and for the duration of construction activities, all personnel at the Project area (including laydown areas and/or transmission routes) shall attend a Worker Environmental Awareness Program (WEAP) developed and presented by the Qualified Biologist. New personnel shall receive WEAP training on the first day of work and prior to commencing work on the site. Any employee responsible for the operation and maintenance (O&M) or decommissioning of the Project facilities shall also attend WEAP training.	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		1. The program shall include information on the life history of the desert tortoise, burrowing owl, golden eagle, and other raptors; nesting birds, desert kit fox; as well as other wildlife and plant species that may be encountered during construction activities. 2. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the Project proponent is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act. 3. The program shall provide information on how and where to bring injured animals for treatment in the case any animals are injured on the Project area. 4. An acknowledgement form signed by each worker indicating that WEAP training has been completed shall be kept on record. 5. A sticker shall be placed on hard hats indicating that the worker has completed the WEAP training. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the WEAP training and are wearing hard hats with the required sticker. 6. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms shall be submitted to the San Bernardino County Land Use Services Department, Planning Division, upon the County's request.	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		BIO-5 Desert Kit Fox. To avoid construction-level impacts to desert kit fox, not more than 30 days prior to Project disturbance activities, qualified personnel shall perform a pre-construction clearance survey for desert kit fox in accordance with CDFW guidelines. Surveys shall also consider the potential presence of active dens within 100 feet of the boundaries of the on-site disturbance footprint, access roads, and selected alignment for the gen-tie line. If dens are detected, each shall be classified as either inactive, potentially active, or definitely active. If potential desert kit fox dens are observed and avoidance is feasible, buffer distances shall be established by the Qualified Biologist prior to construction activities. Typical buffer distances for desert kit fox are: • Desert kit fox potential den: 50 feet • Desert kit fox active den: 100 feet • Desert kit fox natal den: 500 feet If avoidance of the potential desert kit fox dens is not feasible, the following measures are recommended to minimize potential adverse effects to the desert kit fox: • If a Qualified Biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel and collapse them to prevent desert kit foxes from re-using them during construction. • If the Qualified Biologist determines that potential dens may be active, an on-site passive relocation program shall be implemented, subject to coordination with CDFW. Based on coordination with CDFW, it is anticipated this program shall only be implemented during the non-breeding season (September 1 through February 1) and consist of passive eviction of desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances and monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. Non-breeding season dates will be	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		confirmed based on coordination with CDFW. After the Qualified Biologist determines that desert kit foxes have stopped using active dens within the Project boundary, the dens shall be hand- excavated with a shovel and collapsed to prevent re-use during construction. Only non-natal dens shall be passively excluded, disturbance to natal dens shall be avoided. **BIO-6 Burrowing Owl.** To avoid construction-level impacts to burrowing owl, not more than 30 days prior to Project disturbance activities, qualified personnel shall perform a pre-construction clearance survey for burrowing owl in accordance with CDFW guidelines. If the species is present on-site and/or within 500 feet of the site, the biologist shall prepare and submit a passive relocation plan to the CDFW for review/approval and shall implement the approved plan to allow commencement of disturbance activities on-site. If burrowing owls are detected on-site, a no-work buffer shall be established, restricting all ground-disturbing activities, such as vegetation clearance or grading, from occurring within the buffer. Typical avoidance buffer distances for burrowing owl range from 100 meters (330 feet) to 250 meters (825 feet) depending on Project activity, line of sight and local topography, during the breeding season (February 1 to August 31). During the non-breeding (winter) season (September 1 to January 31), typical avoidance buffers range from 50 meters (165 feet) to 100 meters (330 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW. If burrowing owl burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31), where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a Qualified Biologist shall implement a passive relocation program. At a minimum, the program shall include the following performance standards: • Excavation shall require hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow and monitored for at least 48 hours after installation. If burrows will not be directly impacted by the Project, one-way doors shall be installed to prevent use and shall be removed after ground-disturbing activities have concluded in the area. Only burrows that will be directly impacted by the Project shall be excavated and filled. • Detailed methods and guidance for passive relocation of burrowing owls to off-site "replacement burrow site(s)" consisting of a minimum of two suitable, unoccupied burrows for every burrowing owl or pair to be passively relocated. • Monitoring and management of the replacement burrow site(s) and a reporting plan. The objective shall be to manage the replacement burrow sites for the benefit of burrowing owls (e.g., minimizing weed cover), with the specific goals of maintaining the functionality of the burrows for a minimum of 2 years. **BIO-7 Measures for Nesting Birds and Raptors**. If construction is scheduled to commence during the non-breeding season (September 1 to January 31), no pre-construction surveys or additional measures with regard to nesting birds and other raptors are required. To avoid impacts to nesting birds in the Project area, a qualified wildlife biologist shall conduct pre-construction surveys of all potential nesting habitats within the Project area for project activities that are initiated during the breeding season (February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows, Joshua trees, and shrubs) within a 0.5-mile buffer around the Project area. These surveys shall be conducted no fewer than 14 days prior to ground-disturbing activities without prior agency approval. Surveys need not be conducted for the entire Project area at one time; they may be conducted in phases so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer as determined by the Qualified Biologist (e.g., 200-300 feet for common raptors; 30-50 feet for passerines, 0.5 mile for golden eagle) should be established around active nests, and no construction within the buffer shall be allowed until a Qualified Biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of a Qualified Biologist; however, for State-listed species, consultation with the CDFW shall occur prior to encroachment into the aforementioned buffers.	
Impact 3.5-2: Would the Project have a substantial effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?	No Impact	No mitigation measures are required.	N/A
Impact 3.5-3: 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, filing, hydrological interruption, or other means?	Significant	**BIO-8 Avoidance and Minimization.** Jurisdictional features (ephemeral drainages) identified in the delineation shall be avoided where possible. If all waters of the U.S and waters of the State can be avoided, no further mitigation is recommended. Any activities that would result in impacts to waters of the U.S. and/or waters of the State will be required to receive issuance of regulatory permits from USACE, CDFW and/or RWQCB. If regulatory permits are required, the Project applicant shall submit a copy of issued regulatory permits to the San Bernardino County Land Use Services Department, Planning Division, prior to issuance of a grading permit. If the Project will directly impact waters of U.S. for waters of the State, the following measures shall be implemented to reduce impacts to less than significant: • Any material/spoils generated from Project activities shall be located away from jurisdictional areas or special-status habitat and protected from	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. • Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank. • Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the Project foreman or designated environmental representative will be notified. • Compensatory mitigation to offset permanent impacts to waters of the State. Mitigation shall occur at a minimum ratio of 1:1 through the establishment of a conservation easement, restoration of existing habitat and/or payment of in-leu fees. A Compensatory Mitigation and Restoration Plan is recommended for inclusion with agency permit applications that are proposing on-site restoration and shall include the following components: • A description of the purpose and goals of the mitigation Project including the improvement of specific physical, chemical, and/or biological functions at the mitigation site. • A description of the plant community type(s) and amount(s) that will be provided by the mitigation and how the mitigation method will achieve the mitigation Project goals. • A description of the mitigation site, including a site plan of the location and rationale for site selection.	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• A plant palette and methods of salvaging, propagating, and planting the site to be restored. • Methods of soil preparation. • Best Management Practices (BMPs) that will be utilized to avoid erosion and excessive runoff before plant establishment. • Maintenance and monitoring necessary to ensure that the restored plant communities meet the success criteria. • Schedule for restoration activities including weed abatement, propagating and planting, soil preparation, irrigation, erosion control, qualitative and quantitative monitoring, and reporting to the County. Identification of measurable performance standards for each objective to evaluate the success of the compensatory mitigation. • Identification of contingency and adaptive management measures to address unforeseen changes in site conditions or other components of the mitigation Project. If off-site mitigation is proposed, the following measure would apply: • Identification or an appropriate mitigation bank and the purchase of credits commensurate with the type of impacts associated with the Project.	
Impact 3.5-4: Would the Project interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.5-5: Would the Project conflict with any local policies or ordinances protecting biological	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
resources, such as a tree preservation policy or ordinance?			
Impact 3.5-6: 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?	Less than Significant	No mitigation measures are required.	N/A
Cultural Resources			
Impact 3.6-1: Would the Project cause a substantial adverse change in the significance of historical resources pursuant to §15064.5?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.6-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Significant	**CR-1: Archaeological Resources.** The Project Applicant shall retain a qualified archaeologist, defined as an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (NPS 1983), to perform mitigation measures related to archaeological and historic resources listed below. 1. If feasible, archaeological sites Sienna S-8 and Sienna-S-28 identified within the Project area plus a 200-foot buffer shall be avoided. The 200-foot buffer shall be delineated using a high visibility barrier (i.e., Environmentally Sensitive Area [ESA] fencing). The buffer may be reduced in consultation with qualified archaeologist based on the Phase II Study. 2. In the event where avoidance of archaeological sites Sienna S-8 and Sienna S-28 is infeasible, the Project Applicant shall implement the following: a) Prior to the initiation of ground-disturbing activities, a Phase II Study shall be conducted to determine whether a subsurface deposit with significant data potential exists at each of these sites and to establish the subsurface boundaries of the resource. The Phase II study shall be conducted by a qualified	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		archaeologist. The qualified archaeologist shall prepare a subsurface testing plan for review and approval by the San Bernardino County Museum prior to execution. The Phase II testing plan shall include, but not be limited to, a research design, testing methods, laboratory methods, and a list of any applicable special studies to be completed. The Phase II plan shall also include testing locations proposed within the site. The Phase II study shall comprise subsurface testing designed to establish the presence or absence and extent of intact archaeological deposits and to assess whether the site(s) retains enough data potential to be considered significant under CEQA. The Phase II testing shall be observed by a Native American monitor. b) If a Phase II investigation at sites Sienna S-8 and/or Sienna S-28 finds the resource(s) as eligible for listing in the NRHP and CRHR and avoidance is not feasible, a Phase III data recovery program (Phase III) shall be undertaken to mitigate any significant impacts. Mitigation consists of obtaining sufficient cultural materials such that no further material recovery would result in additional knowledge regarding the site. A Phase III investigation shall begin with the development of a data recovery plan prepared by a qualified archaeologist and reviewed and approved by San Bernardino County prior to execution. The data recovery plan shall include, but not be limited to, an expanded research design, testing methods, proposed testing locations, laboratory methods and analyses, and special studies. The Phase III plan shall include extensive subsurface testing and a full analysis of artifacts identified during each phase of subsurface investigation with the goal of exhausting the data potential of the site(s). These studies shall include but not be limited to faunal analysis of any animal bones, radiocarbon dating where appropriate, and/or protein residue analysis of stone tools and groundstone. The	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		results of the Phase III study shall be presented in a technical report documenting the prehistoric and ethnographic background of the area, the field and laboratory methods used, results, and final deposition of the artifact collection. The data collected during the study may also be prepared for publication in a scientific journal as part of the data recovery mitigation. **CR-2: Preparation of a Cultural Resources Mitigation and Monitoring Program.** Prior to the start of any ground-disturbing activity for Project construction, including but not limited to site clearing, grubbing, trenching, and excavation, a qualified archaeologist who meets or exceeds the Secretary of Interior's Professional Qualifications Standards for archaeology shall be retained to prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) for unanticipated discoveries during Project construction. The CRMMP shall be prepared in consultation with Native American tribes who have participated in consultation for the Project. The CRMMP shall include provisions for archaeological and Native American monitoring of all construction related ground disturbance within Project areas of moderate to high archaeological sensitivity. The CRMMP shall also include the Project construction schedule, procedures to be followed in the event of discovery of archaeological resources, and protocols for Native American coordination and input, including review of documents. The CRMMP shall outline the role and responsibilities of both the archaeological and Native American monitor(s). It shall include communication protocols and opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin. The CRMMP shall include provisions for Native American monitoring during testing or data recovery efforts for unknown resources that are Native American in origin. A copy of the executed CRMMP shall be provided to the County of San Bernardino Planning Division. **CR-3: Archaeological Sensitivity Training.** Prior to the initiation of ground-disturbing activities, the Sienna Project Applicant and construction manager shall conduct a Worker Education Awareness Program (WEAP) to alert field personnel to the possibility of buried	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		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 provided to the County of San Bernardino Planning Division and retained demonstrating that construction personnel attended the training. In the event that cultural resources are discovered during Sienna 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 Sienna Project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) 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. **CR-4: Archaeological and Native American Monitoring**. Archaeological and Native American monitoring of Project-related initial ground disturbing activities including grading, scraping, and other clearing shall occur in areas of moderate to high archaeological sensitivity. Within areas of moderate to high archaeological sensitivity, archaeological monitoring shall be performed under the direction of the qualified archaeologist. The qualified archaeologist, in consultation with the County of San Bernardino and the Native American monitor, shall have the power to reduce or suspend monitoring depending upon observed conditions. If archaeological resources are encountered during	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		ground-disturbing activities, work within the immediate area must halt and the find evaluated for significance under CEQA. 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 Sienna Project and implement the plan accordingly.	
Impact 3.6-3: Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Less than Significant	No mitigation measures are required.	N/A
Geology and Soils			
Impact 3.7-1i: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.7-1ii: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.7-1iii: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure including liquefaction?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.7-1iv: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.7-2: Would the Project result in substantial soil erosion or the loss of topsoil?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.7-3: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	Significant	**GEO-1 Prepare Geotechnical Report(s) as Part of Final Engineering for the Sienna Project and Implement Required Measures.** Facility design for all Sienna Project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the Sienna Project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: • Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the Sienna Project applicant. The final geotechnical and/or civil engineering report shall	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		be submitted to San Bernardino County Public Works Department for review and approval prior to issuance of building permits.	
Impact 3.7-4: Would the Project 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?	Significant	Implement Mitigation Measure GEO-1	Less than Significant
Impact 3.7-5: Would the Project 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?	Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.7-6: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Significant	**GEO-2: Paleontological Worker Environmental Awareness Program (WEAP).** Prior to the start of construction, workers shall participate in a WEAP led by a qualified paleontologist who meets the minimum qualifications per standards set forth by the Society of Vertebrate Paleontology (2010). Construction personnel shall be alerted to the potential for paleontological resources to be present on site and educated on the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. This information should be conveyed to all new staff during WEAP presentation. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms shall be submitted to the San Bernardino County Land Use Services Department, Planning Division, upon the County's request. **GEO-3: Paleontological Monitoring.** Initially, full-time monitoring should be conducted during ground construction activities (i.e., grading, trenching, foundation work, and other excavations) where ground disturbance exceeds 10 feet in depth within intact Holocene and Pleistocene deposits (i.e., Qa, Qs, Qc, Qog). Monitoring should	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		be conducted by a qualified paleontological monitor or cross-trained monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the Society of Vertebrate Paleontology (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources, or requisite field experience and training and a B.S. or B.A. degree in a similar scientific field. The duration and timing of the monitoring should be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted based on the specific geologic conditions, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. If paleontological resources are discovered, the qualified paleontologist should establish an avoidance buffer, develop a paleontological recovery plan in consultation with the County, and implement the specifics of the recovery plan.	
Greenhouse Gas Emissions			
Impact 3.8-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.8-2: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	Less than Significant	No mitigation measures are required.	N/A
Hazards and Hazardous Materials			
Impact 3.9-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.9-2: 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.9-3: 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?	No Impact	No mitigation measures are required.	N/A
Impact 3.9-4: Would the Project be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.9-5: 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?	No Impact	No mitigation measures are required.	N/A
Impact 3.9-6: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.9-7: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less than Significant	No mitigation measures are required.	N/A
Hydrology/Water Quality			
Impact 3.10-1: Would the Project violate any water quality standards or waste discharge requirements or	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
otherwise substantially degrade groundwater water quality?			
Impact 3.10-2: 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-3i: 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-3ii: Would the Project substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-3iii: Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-3iv: Would the Project impede or redirect flood flows?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-4: Would the Project be located in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to Project inundation?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-5: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Land Use and Planning			
Impact 3.11-1: Would the Project physically divide an established community?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.11-2: 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?	Less than Significant	No mitigation measures are required.	N/A
Noise and Vibration			
Impact 3.12-1: 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?	Significant	**NOI-1 Employ Noise-Reducing Measures During Construction.** The construction contractor shall employ measures to minimize and reduce construction noise. Noise reduction measures that will be implemented include, but are not limited to, the following: • Electrically powered equipment instead of internal combustion equipment shall be used where feasible. • Limit use of intensive excavating and earthmoving machinery to daytime hours. • To the extent feasible, schedule construction activity during daytime working hours. • Temporary noise barriers and/or blankets with a minimum height of eight feet shall be deployed when construction activities are within 100 feet of a sensitive receiver during nighttime or cumulative construction activities. The temporary noise barriers and/or blankets shall be constructed of material with a minimum weight of two pounds per square foot with no gaps or perforations and extend 25 feet from equipment activity area to ensure line of sight is blocked at sensitive receiver locations. Temporary noise barriers and/or blankets may be constructed of, but not limited to, 5/8-inch plywood, 5/8-inch oriented strand board, and hay bales.	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.12-2: Would the Project generate excessive groundborne vibration or groundborne noise levels?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.12-3: 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
Transportation			
Impact 3.13-1: 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	No mitigation measures are required.	N/A
Impact 3.13-2: Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.13-3: 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)?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.13-4: Would the Project result in inadequate emergency access?	Less than Significant	No mitigation measures are required.	N/A
Tribal Cultural Resources			
Impact 3.14-1: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place,	Significant	**TCR-1 Tribal Cultural Resources.** The Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed in Mitigation Measure CR-3, 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	Less than Significant

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
or object with cultural value to a California Native American tribe, and that is 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)?		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 YSMN and the County Planning Department, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to represent YSMN for the remainder of the Sienna Project, should SMBMI elect to place a monitor on-site. If a pre-contact cultural resource is discovered during implementation of the Sienna Project, 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 Qualified Archaeologist shall develop a research design that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the YSMN, 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	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		YSMN. All plans for analysis shall be reviewed and approved by the Applicant and YSMN prior to implementation, and all removed material shall be temporarily curated on-site. YSMN has indicated it is the preference of YSMN 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 YSMN, 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 YSMN. All reburials are subject to a reburial agreement that shall be developed between the landowner and YSMN 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 YSMN 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	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		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 YSMN 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 YSMN. Inadvertent Discovery Guideline 1. In the event that cultural resources are discovered during Sienna 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 Sienna Project outside of the buffered area may continue during this assessment period. Additionally, the YSMN 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 YSMN for review and comment. The archaeologist shall monitor the remainder of the Project and implement the plan accordingly.	

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		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 Sienna Project. **TCR-2 Archaeological/Cultural Documentation.** Any and all archaeological/cultural documents created as a part of the Sienna Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Applicant and County for dissemination to the YSMN. The County and/or Applicant shall, in good faith, consult with YSMN throughout the life of the Sienna Project.	
Impact 3.14-2: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a 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?	Significant	Implement Mitigation Measures TCR-1 and TCR-2.	Less than Significant
Utilities and Service Systems			
Impact 3.15-1: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications	Less than Significant	No mitigation measures are required.	N/A

Table ES-1. Summary of Sienna Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
facilities, the construction or relocation of which could cause significant environmental effects?			
Impact 3.15-2: Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.15-3: 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.15-4: Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.15-5: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less than Significant	No mitigation measures are required.	N/A

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Aesthetics			
Impact 3.2-1: Would the Project have a substantial adverse effect on a scenic vista?	Significant	Implement Mitigation Measures AQ-1a and TRA-1.	Less than Significant
Impact 3.2-2: Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?	No Impact	No Mitigation Measures are required.	N/A
Impact 3.2-3: In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	Significant	Implement Mitigation Measures AQ-1a and BIO-1c.	Less than Significant
Impact 3.2-4: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Significant	**MM ALG-5: Minimize Night Lighting at Project Facilities.** The Applicant shall avoid night lighting where possible and minimize its use under all circumstances. To ensure this, the Applicant shall implement the following requirements for both construction and operation: • Illumination of the Project and its immediate vicinity shall be minimized • Lamps and reflectors are to be fully shielded with sufficient cutoff angles such that they are not visible from beyond the construction site or facility including any off-site security buffer areas • Lighting shall emphasize the use of low-pressure sodium (LPS) or amber light-emitting diode (LED) lighting	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Lighting shall not cause excessive reflected glare and shall not illuminate the nighttime sky, except for required Federal Aviation Administration (FAA) aircraft safety lighting (which, if required, shall be an on-demand, audio-visual warning system that is triggered by radar technology) • Creation of sky glow caused by project lighting shall be avoided • All permanent light sources shall be below 3,500 Kelvin color temperature (warm white) and shall be full cutoff fixtures • All security lighting is to be motion activated only through the use of passive infrared sensors and controlled as specific zones such that only targeted areas are illuminated	
Air Quality			
Impact 3.4-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Significant	**MM AQ-1a: Fugitive Dust Control.** Prior to the issuance of grading permits, the Applicant shall submit a Dust Control Plan to the Mojave Desert Air Quality Management District, the County, and the Commission for review and approval. The plan shall describe the fugitive dust control measures which would be implemented and monitored at all locations of proposed project construction. The plan shall comply with the mitigation measures described in the Fugitive Dust Control Rules enforced by the MDAQMD (Rule 403), San Bernardino County Development Code sections 83.01.040 and 84.29.035, as well as the existing State Implementation Plan available for PM10 and PM2.5. The plan shall be incorporated into all contracts and contract specifications for construction work and operation of onsite activities. The plan shall	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation

		outline the steps to be taken to minimize fugitive dust generated by construction and operation of on-site activities by:
		• Describing each active operation that may result in the generation of fugitive dust.
		• Identifying all sources of fugitive dust, e.g., earthmoving, storage piles, vehicular traffic.
		• Describing the control measures to be applied to each of the sources identified. The descriptions shall be sufficiently detailed to demonstrate that the best available control measures required by air districts for solar projects are used.
		• Providing the following control measures, in addition to or as listed in the applicable rules, but not limited to:
		  ○ Manage and limit disturbance of ground surfaces from vehicle traffic, excavation, grading, vegetation removal, or other activities to lower the potential for soil detachment and reduce dust transport. Maximize the use of compaction methods rather than the removal of topsoil other than in areas where excavation or grading are required. This process referred to as mow-and-roll (agricultural land) or plate-and-roll (native vegetation) lessens the level of ground disturbance and leaves the root system in place for quicker regeneration of vegetative cover.
		  ○ Watering will occur at a minimum of three times daily on disturbed soil areas with active operations, including maintenance and access vehicular roads and parking areas, unless dust is otherwise controlled by rainfall or use of a chemical dust palliative, gravel, asphaltic pavement, or other approved dust control measure sufficient to minimize visible fugitive dust from vehicular travel and wind erosion and comply with MDAQMD Rule 403. Actions, including sweeping sealed roads, use of stabilized	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		construction/facility entrances, and, if needed, using one or more entrance/exit vehicle tire wash apparatuses, shall be taken to prevent project-related track-out. Any project-related track-out must be cleaned within 24 hours. ○ Water conservation may be achieved by using a non-toxic chemical dust palliative or soil weighting agent. Non-water-based soil stabilizers shall be as efficient as or more efficient for fugitive dust control than Air Resources Board (ARB)-approved soil stabilizers and shall not increase any other environmental impacts, including loss of vegetation, adverse odors, or emissions of ozone precursor reactive organic gases (ROG) or volatile organic compounds (VOC). ○ Use natural vegetation to stabilize disturbed or otherwise unstable surfaces to the extent feasible. ○ All clearing, grading, earth moving, and excavation activities will cease during period of winds greater than 20 miles per hour (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 MDAQMD regulations. ○ An adequate wind barrier shall be provided where the boundary of a new commercial solar energy generation facility will be located within one-quarter mile of a primary residential structure, to reduce potentially blowing dust in the direction of the residence during construction and ongoing operation of the commercial solar energy generation facility. ○ A water truck shall be used to maintain most disturbed surfaces and to actively spread water during visible dust episodes to minimize visible fugitive dust and limit emissions to 20 percent opacity in areas where grading	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		occurs, within the staging areas, and on any unpaved roads. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel may be required to eliminate visible dust/sand from sand/fines deposit, if water application does not achieve stabilization. Other controls could include application of hydromulch (with seed for re-establishment of vegetation), application of soil binders, or the use of soil cement for particularly unstable areas. ○ Minimize the idling time of diesel-powered construction equipment to 5 minutes, except in extreme heat events where workers require conditioned air to avoid health and safety issues. ○ All trucks and equipment, including their tires, shall be washed off prior to leaving the site. ○ On-site vehicle speed shall be limited to 15 miles per hour. ○ The following signage shall be erected not later than the commencement of construction: ▪ A minimum 48-inch-high by 96-inch-wide sign containing the following information shall be located within 50 feet of each project site entrance, meeting the specified minimum text height, black text on white background, on 1-inch A/C laminated plywood board, with the lower edge between 6 and 7 feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day "Site Name" (4-inch text) "Project Name/Project Number" (4-inch text)	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		IF YOU SEE DUST COMING FROM THIS PROJECT, CALL: (4-inch text) [Contact Name]. PHONE NUMBER: XXX-XXX-XXXX (6-inch text) IF YOU DO NOT RECEIVE A RESPONSE, PLEASE CALL the MDAQMD at 1-800-635-4617. (3-inch text) • The Applicant or its designated representative shall obtain prior approval from the MDAQMD prior to any deviations from fugitive dust control measures specified in the approved Air Quality Construction Management Plan. A justification statement used to explain the technical and safety reason(s) for the substitute dust control measures required shall be submitted to the appropriate agency for review. • The provisions of the Fugitive Dust Control Plan shall also apply to project decommissioning activities. **MM AQ-1b: Control On-Site Off-Road Equipment Emissions.** The Applicant, when entering into construction contracts or when procuring off-road equipment or vehicles for on-site construction or operation and maintenance (O&M) activities, shall ensure that only new model year equipment or vehicles are obtained. The following measures would be included with contract or procurement specifications: All construction diesel engines not registered under California Air Resources Board's Statewide Portable Equipment Registration Program, with a rating of 50 hp or higher shall meet the Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, title 13, section 2423, subdivision (b)(1), unless a good faith effort demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 4 engine is not available for any off-road equipment larger than 50 hp, a Tier 3 engine shall be	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		used or that equipment shall be equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 3 levels unless certified by the engine manufacturers that the use of such devices is not practical for specific engine types. • All diesel-fueled engines used in the construction of the facility shall have clearly visible tags showing that the engine meets the standards of this measure. • All equipment and trucks used in the construction or O&M of the facility shall be properly maintained and the engines tuned to the engine manufacturer's specifications. • All diesel heavy construction equipment shall not idle for more than 5 minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.	
Impact 3.4-2: 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 (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?	Significant	Implement Mitigation Measures AQ-1a and AQ-1b.	Less than Significant
Impact 3.4-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?	Significant	Implement Mitigation Measures AQ-1a and AQ-1b.	Less than Significant
Impact 3.4-4: Would the Project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	Less than Significant	No mitigation measures are required.	N/A
Biological Resources			
Impact 3.5-1: Would the project have a substantial adverse effect, either directly or through habitat	Significant	Implement Mitigation Measures HAZ-1, NOI-1, ALG-5, and TRA-1.	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?		**MM BIO-1a: Implement Biological Monitoring.** Monitoring to ensure conformance with conditions of approval, including effective protection and avoidance of biological resources, shall be implemented by the Applicant (Aurora Solar LLC for the Stagecoach Solar Generation Plant and Stagecoach Gen-tie Line and SCE for the Calcite Facilities) as follows: Biological Monitoring Team. During construction and decommissioning the Applicant shall employ or contract with a biological monitoring team to oversee project activities. Any activity that may impact vegetation, wildlife, and sensitive resources will be monitored to ensure compliance with all mitigation measures for biological resources. The biological monitoring team will consist of: • **Lead Biologist:** The Applicant shall assign a Lead Biologist, approved by the California State Lands Commission (CSLC), as the primary point of contact for the CSLC and resource agencies regarding biological resources mitigation and compliance. The Lead Biologist will be under contract to the Applicant and will serve as principal point of contact to the CSLC regarding implementation and compliance with biological resources measures throughout construction, operation and maintenance (O&M), and decommissioning. • **Biological Monitor:** Biological monitors will be overseen by the Lead Biologist and will perform any required surveys, ground disturbance and construction monitoring, wildlife monitoring, inspections, marking sensitive resource buffers, and revegetation monitoring during project activities. Biological monitors will include trained desert tortoise monitors (MM BIO-3c), nest monitors (MM BIO-3f) and other specialists as appropriate to any given measure. • **Authorized Desert Tortoise Biologist:** For desert tortoise protection measures (MM BIO-3c), Avangrid will nominate	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		one or more qualified individuals to serve as Authorized Desert Tortoise Biologist for the solar generation plant and gen-tie line, for approval by the USFWS. The Applicant shall provide the resumes of each member of the proposed Biological Monitoring Team to the CSLC for approval prior to onset of ground-disturbing activities. Each member of The Biological Monitoring Team will have demonstrated expertise with the biological resources within the project region. Each member of the Biological Monitoring Team will have authority to halt any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources. The duties of the Biological Monitoring Team will vary during the construction, O&M, and decommissioning phases, based on the biological monitoring tasks needed for compliance during each phase. The Biological Monitoring Team will be used mostly during construction; however, some intermittent inspections or monitoring may be needed during O&M and decommissioning. Biological monitoring during O&M will not necessitate a full team, but the Applicant will ensure all required biological monitoring and reporting (e.g., revegetation and avian mortality monitoring) are completed as specified in MMs below. During O&M, an Applicant staff member serving as compliance manager may perform the administrative duties of the Lead Biologist, by overseeing qualified Biological Monitors, to ensure compliance with biological mitigation measures, such as overseeing inspections for entrapped wildlife and fence condition, reporting dead or injured wildlife, and avoiding nesting birds. Qualifications for monitors during O&M and lead agency review of resumes will be as described above. • In general, the duties of the Lead Biologist will include, but will not be limited to:	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Regular, direct communication with representatives of the CSLC, and other agencies, as appropriate. The Lead Biologist (or the Applicant's compliance manager during O&M) shall immediately notify the CSLC and applicable resource agencies in writing of dead or injured special-status species, or of any non-compliance with biological mitigation measures or permit conditions. • Train and supervise Biological Monitors, including desert tortoise monitors, nest monitors, and construction monitors • Conduct or oversee Worker Environmental Awareness Program (WEAP) training (MM BIO-1b) • During construction and decommissioning, clearly mark and inspect sensitive biological resource areas in compliance with regulatory terms and conditions • Oversee wildlife clearance surveys, monitoring of ground disturbance and grading, and other biological monitoring requirements. Ensure that all biological monitoring is completed properly and on schedule. • Conduct or oversee bi-weekly compliance inspections during ground disturbing activities and communicate any remedial actions needed (i.e., trash, fence, weed maintenance; wildlife mortality) to maintain compliance with mitigation measures Reporting. The Lead Biologist (or the Applicant's compliance manager during O&M) shall report regularly to the CSLC to document the status of compliance with biological mitigation measures. During construction and decommissioning:	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Provide weekly verbal or written updates to the CSLC with any information pertinent to the CSLC, to resource agencies, or to state or federal permits for biological resources • Prepare and submit monthly and annual compliance reports to include a summary of project activities that occurred, biological resources surveys and monitoring that were performed, any sensitive or noteworthy species observed, weed infestations removed, and non-compliance issues and remedial actions that were implemented During O&M: • Conduct quarterly compliance inspections and reporting, to be submitted to the CSLC, to document the condition of exclusion fencing, wildlife mortality, and any biological resource issues of note **MM BIO-1b: Implement Worker Environmental Awareness Training.** To ensure worker understanding and conformance with conditions of approval, including effective protection and avoidance of biological resources, the Lead Biologist shall prepare and implement a Worker Environmental Awareness Program (WEAP) during construction, O&M, and decommissioning. The Applicant shall be responsible for ensuring that all workers at the site receive WEAP training prior to beginning work on the project and throughout construction and operations. The WEAP shall be available in English and Spanish. The Applicant shall submit the WEAP to the CSLC for approval prior to implementation. The WEAP shall: • Be developed by or in consultation with the Lead Biologist and consist of an on-site or training center presentation with supporting written material and electronic media, including photographs of protected species, available to all participants	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Provide an explanation of the function of flagging that designates authorized work areas; specify the prohibition of soil disturbance or vehicle travel outside designated areas • Discuss general safety protocols such as vehicle speed limits, hazardous substance spill prevention and containment measures, and fire prevention and protection measures • Review mitigation and biological permit requirements • Explain the sensitivity of the vegetation and habitat within and adjacent to work areas, and proper identification of these resources • Discuss the federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act and the consequences of non-compliance with these acts • Discuss the locations and types of sensitive biological resources on the project site and adjacent areas and explain the reasons for protecting these resources • Inform participants that no snakes, other reptiles, birds, bats, or any other wildlife will be harmed or harassed • Place special emphasis on species that may occur on the project site and/or gen-tie lines, including special-status plants, desert tortoise, burrowing owl, golden eagle, nesting birds, desert kit fox, American badger, and burro deer • Specify guidelines for avoiding rattlesnakes and reporting rattlesnake observations to ensure worker safety and avoid killing or injuring rattlesnakes. Wherever feasible, rattlesnakes must be safely removed from the work area	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		using appropriate snake handling equipment, including a secure storage container for transport. • Describe workers' responsibilities for avoiding the introduction of invasive weeds onto the project site and surrounding areas, describe the Integrated Weed Management Plan • Provide contact information for the Lead Biologist and instructions for notification of any vehicle-wildlife collisions or dead or injured wildlife species encountered during project-related activities • Include a training acknowledgment form to be signed by each worker indicating that they received training and will abide by the guidelines • *Desert Tortoise Education Requirements*: Prior to the start of construction activities, a desert tortoise education program shall be presented by the Lead Biologist to all personnel who will be present on Project work areas. Following the start of construction, any new employee shall be required to complete the tortoise education program prior to working on-site. At a minimum, the tortoise education program shall cover the following topics: - A detailed description of the desert tortoise, including color photographs - The distribution and general behavior of the desert tortoise - Sensitivity of the species to human activities - The protection the desert tortoise receives under the state and federal ESA, including prohibitions and penalties incurred for violation	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		- The protective measures being implemented to conserve the desert tortoise during construction activities - Procedures and a point of contact if a desert tortoise is observed on-site **MM BIO-1c: Minimize Impact and Protect Identified Vegetation and Habitat.** Prior to ground-disturbing activities during construction, O&M, or decommissioning, authorized work areas shall be clearly delineated. These areas shall include, but are not limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils. Delineation may be implemented with common orange vinyl “fencing” or staking to clearly identify the limits of work and shall be verified by the Lead Biologist. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). Fencing/staking shall remain in place for the duration of the ground-disturbing activity and while construction vehicles are driving on-site. Spoils shall be stockpiled in disturbed areas. All disturbances, vehicles, and equipment shall be confined to the fenced/flagged areas. **Low-Impact Site Preparation.** Native vegetation will be allowed to recover from rootstocks and seed bank wherever facilities do not require permanent vegetation removal (e.g., access roads, foundations, paved areas, or fire clearance requirements) within the perimeter fenceline of the solar generation plant14 and under solar arrays. Vegetation height and density will be managed as needed for O&M and fire safety, but vegetation management will otherwise focus on maintaining habitat and soil conditions. Upon completion of construction, O&M, or decommissioning activities in any given area, all unused materials, equipment, staking and flagging, and refuse shall be removed and properly	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		disposed of, including wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers. Any unused or leftover hazardous products shall be properly disposed of off-site. **MM BIO-1d: Weed Management.** The Applicant shall prepare and implement an Integrated Weed Management Plan (IWMP) to minimize or prevent invasive weeds from infesting the site or spreading into surrounding habitat during construction, O&M, and decommissioning. The plan must be submitted to the CSLC staff for review and approval a minimum of 60 days prior to the start of construction activities. The IWMP shall identify weed species occurring or potentially occurring in the project area, means to prevent their introduction or spread (e.g., vehicle cleaning and inspections), monitoring methods to identify infestations, and herbicides or manual methods that may be used for control or eradication. Herbicide use shall be avoided in environmentally sensitive areas. The IWMP shall also require monthly and annual reporting during construction and decommissioning, which shall identify weeds found, the control mechanisms used, and the success of the effort. For additional details on reporting, see MM BIO-1a. The Lead Biologist shall oversee timely implementation of the IWMP and manual or chemical removal measures to control or eradicate invasive weeds. **MM BIO-1e: Revegetation.** The Applicant shall prepare and implement a Revegetation Plan, to be submitted to the CSLC staff for review and approval a minimum of 60 days prior to the start of construction activities. The Plan shall be implemented in areas temporarily impacted during construction and operation. Any additional acreage disturbed during O&M or decommissioning will also be subject to revegetation according to the terms of the Revegetation Plan. The Lead Biologist shall oversee implementation of the Revegetation Plan to meet success criteria and prevent further degradation of areas temporarily disturbed by	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		project activities. Pre-disturbance habitat values would not be restored, but off-site compensation would offset the loss in habitat value. The revegetation Plan shall detail the methods to implement the following restoration/revegetation requirements. • **Revegetation of temporarily impacted sites.** Upon completion of construction, areas that are temporarily impacted during construction will be revegetated with native desert species. The Revegetation Plan shall specify methods to prevent or minimize further site degradation; stabilize soils; maximize the likelihood of vegetation recovery over time (for areas supporting native vegetation); and minimize soil erosion, dust generation, and weed invasions. The nature of revegetation shall differ according to each disturbed area, its pre-disturbance condition, and the nature of the construction disturbance. The Revegetation Plan shall include: (a) soil preparation measures, including locations and methods of recontouring, decompacting, imprinting, or other treatments; (b) details for topsoil storage, as applicable; (c) plant material collection and acquisition guidelines, including guidelines for salvaging, storing, and handling plants from the project site, as well as obtaining replacement plants from outside the project area (plant materials shall be limited to locally occurring native species from local sources); (d) a plan drawing or schematic depicting the temporary disturbance areas (drawing of "typical" gen-tie structure sites will be appropriate); (e) time of year that the planting or seeding will occur and the methodology of the planting; (f) a description of the irrigation, if used; (g) success criteria; and (h) a monitoring program to measure the success criteria, commensurate with the Plan's goals, (i) contingency measures for failed revegetation efforts not meeting success criteria.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		MM BIO-1f: Protect Important Plants. Due to the Joshua tree's CESA status as a candidate for listing, and the Beaver Indian breadroot (CRPR 1B) occurrence within the proposed SCE Calcite Facilities area, the Applicant will reduce Project effects on Joshua tree and Beaver Indian breadroot impacts through one or a combination of the following strategies. If the California Fish and Game Commission determines that Joshua tree listing is not warranted and the western Joshua tree is neither a candidate for listing nor elevated to CRPR 1B status prior to the start of solar field construction, then Joshua tree impacts would be mitigated through habitat compensation (MM BIO-1g: Compensate for Loss of Natural Habitat) and the following measures would not be required. • **Avoidance.** Where Joshua trees or Beaver Indian breadroot exist within the project fenceline but are not within the disturbance footprint of the solar arrays or support facilities, project site preparation and construction shall minimize impacts by minimizing or avoiding soil compaction within a radius of 10 feet (3 meters) surrounding each plant. • **Salvage of Joshua Tree and Beaver Indian breadroot.** The Applicant shall consult with a qualified horticulture specialist regarding the success of salvage efforts for these species. If the strategy has been shown to be feasible and certain Joshua trees and/or breadroot have been judged suitable for relocation, the Applicant shall prepare and implement a Salvage and Relocation Plan (SRP) for Joshua Tree or Beaver Indian breadroot (as applicable based on presence of these plants), to be submitted to CSLC staff for review and approval at least 60 days prior to disturbance of any occupied habitat. The Applicant shall contract with a qualified entity with experience and qualifications, to salvage the Joshua trees or Beaver Indian breadroot judged suitable for relocation, and transfer them to a suitable location outside	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		the project footprint. The Lead Biologist shall oversee implementation of the SRP. The SRP shall include methods to salvage and replant Joshua tree and breadroot specimens found on the site; define the season for salvaging the plants; specify methods for salvage, storage, and re-planting them; define locations for re- planting; and state appropriate monitoring and success criteria for the salvage work. Planting sites shall be selected in coordination with the CSLC and CDFW to ensure avoidance of excessive disturbance to existing habitat. For Joshua trees, planting sites will be prioritized as follows: 1. Temporary disturbance areas within the Project site schedules for revegetation or restoration. 2. Previously disturbed areas within suitable habitat on off-site public lands. 3. Previously disturbed areas within suitable habitat on off-site private lands. 4. Landscaping sites on public lands (e.g., public parks). 5. Landscaping sites on private lands. • **Horticultural Propagation and Off-site Introduction.** If the CSLC, in coordination with CDFW and the Applicant, agree that salvage and relocation is not feasible for Joshua trees or Beaver Indian breadroot, then the Applicant shall consult with a qualified entity, to develop and implement an appropriate experimental propagation and relocation strategy. **MM BIO-1g: Compensate for Loss of Natural Habitat.** The Applicant shall acquire and protect, in perpetuity, compensation habitat to offset loss of natural habitat. Habitat acquisition and protection may be conducted through a CDFW approved mitigation	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		bank or another approved third party, or may be carried out by the Applicant itself (with CDFW approval). The preliminary acreages are presented in Table 4.3-1 of the Stagecoach Solar Project Draft EIR, but final acreages shall be based upon final calculation of impacted acreage for the approved project design. Acreages will be adjusted as appropriate for the approved alternative and for design modifications made after approval. Compensation shall be provided for impacts to the following resources, at the specified ratios (acres acquired and preserved to acres impacted): **Desert tortoise habitat.** Suitable desert tortoise habitat is found throughout the proposed solar generation plant site, gen-tie route, and SCE Calcite Facilities area. Compensation for loss of this habitat shall be at a 1:1 ratio (i.e., one acre of compensation habitat of comparable quality for each acre of permanent or temporary disturbance). **Joshua tree woodland and Indian breadroot habitat.** Compensation shall be at a 1.5:1 ratio (i.e., 1.5 acres of occupied compensation habitat for each acre of impacted occupied habitat), and based on the acreage of occupied Joshua trees or Indian breadroot habitat lost in Project construction. Occupied habitat will be defined either according to the definition used by the CDFW Incidental Take Permit (ITP) or, if there is no ITP, as a 200-foot radius surrounding all Joshua trees or Indian breadroot plants. Compensation habitat must support the target species in densities comparable to the habitat lost during construction. If compensation habitat with comparable densities of the target plants is not available, greater acreage will be required so that sufficient habitat shall be acquired to protect 1.5 Joshua trees or Indian breadroots for each individual removed for construction. Any compensation habitat for these plants that is also suitable habitat for desert	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		tortoise will be credited toward the overall desert tortoise habitat compensation requirement. If any additional acreage of desert tortoise habitat or Joshua tree woodland is disturbed during O&M or decommissioning, that disturbance will also be compensated at the same ratios unless those resources are no longer considered sensitive at that time. Criteria for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands shall include all the following: Provide habitat value that is comparable to the habitat impacted, taking into consideration soils, vegetation, topography, human-related disturbance, invasive species, wildlife movement opportunity, proximity to other protected lands, management feasibility, and other habitat values. Mitigation may be “nested” or “layered,” to the extent that it meets habitat requirements for multiple species that will or may be impacted by the Project. The Applicant shall provide funding or bonding for the acquisition in fee title or in easement, initial habitat improvements and long-term maintenance and management of the compensation lands prior to construction activities on native habitat. Within 18 months of completing construction, the Applicant or an approved third party shall prepare a compensation plan, identifying the proposed mitigation bank or compensation lands, and specifying the land ownership, conservation easement terms, long-term management, and responsibility for funding or endowment. The compensation plan shall be submitted for review and approval to the CSLC. The CSLC shall consult with CDFW and USFWS to ensure that the mitigation will support any permits and authorizations to be issued by either agency. **MM BIO-3a: Protect Wildlife Resources.** Pre-construction surveys would identify sensitive wildlife to ensure they are avoided and allowed to escape work areas. Temporary or permanent	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		exclusion fencing around equipment, work areas, and solar generation plant and avoidance buffers around sensitive resources would minimize wildlife exposure to hazards and avoid direct impacts such as crushing and burial. Direct mortality from vehicle strikes would be minimized with vehicle inspections and restrictions on speed limits. Indirect impacts would be minimized and avoided with restrictions on night lighting, toxic substances, and noise and vibration levels. Work area inspections would minimize mortality due to trapping in open pits, trenches, and excavation areas. Proper disposal of trash would minimize impacts due to human presence and opportunistic predators. Securing trash, water sources, and construction equipment and materials would avoid attracting and entrapping wildlife. **MM BIO-3b: Relocate Special-status Wildlife Species.** Wildlife Relocation Plan would guide relocation activities in accordance with USFWS and CDFW guidelines for special-status wildlife species including (but not limited to), desert tortoise, burrowing owl, desert kit fox, and American badger. Relocation of wildlife outside the disturbance areas would avoid direct mortality from crushing or burial of individuals or burrows and dens during construction. **MM BIO-3c: Protect Desert Tortoise.** Desert tortoise pre-construction clearance surveys, compliance monitoring, and inspections would avoid direct impacts to desert tortoise due to crushing, burial, vehicle strikes, and entrapment in pits or trenches. Temporary and permanent exclusion fencing will minimize desert tortoise entry into work areas and encounters with human activity, vehicles, and equipment. Approved relocation of desert tortoises from active burrows in work areas would avoid direct impacts during construction. **MM BIO-3d: Protect Desert Kit Fox and American Badger.** Pre-construction surveys for individuals and dens, pre-construction monitoring of potentially active dens, and buffers, avoidance, and	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		relocation of individuals in work areas would avoid direct mortality of desert kit fox and American Badger during construction. **MM BIO-3e: Avoid Effects on Burrowing Owl.** Pre-construction surveys for individuals, sign, and active burrows; avoidance buffers around active burrows; and avoidance of nesting season (February 1 through August 31) would avoid direct mortality of burrowing owl during construction. **MM BIO-3f: Bird and Bat Protection.** The Applicant shall prepare and implement a Bird and Bat Conservation Strategy (BBCS), including pre-construction nesting surveys, avoidance buffers around nests, and avoidance of vegetation removal during nesting season (January 1 to August 15), to minimize direct loss of nests and young by avoiding and restricting activity around active nests. The BBCS will identify potential hazards to birds during construction, O&M, and decommissioning, and specify bird and bat mortality monitoring procedures to document the severity of potential hazards. The BBCS will specify bird and bat mortality thresholds and identify adaptive management measures to be implemented if the thresholds are exceeded. Additionally, MM BIO-3f requires the Applicant to prepare a Nesting Bird Management Plan (NBMP) to protect nesting birds, including golden eagles, by specifying performance standards such as avian biologist qualifications, pre- construction field survey scheduling, and assessment of potential impacts according to species and project activities. It also establishes a standard buffer distance with specific measures for adjusting the distance according to circumstances, and a method to amend the Plan if needed. **MM BIO-3g: Implement Protective Designs for Collector Line and Gen-tie Lines.** Solar generation plant collector lines, gen-tie lines, or other energized electrical components shall be designed in compliance with current APLIC standards and practices (APLIC 2012; APLIC 2006) to minimize collision and electrocution hazard.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Design requirements would include discouraging use by raptors for perching or nesting, mechanisms to visually warn birds (permanent markers or bird flight diverters) on power lines, and sufficient distance between all conductors and grounded components to prevent potential for electrocution of the largest birds that may occur in the area (e.g., golden eagle and turkey vulture).	
Impact 3.5-2: 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 CDFW or USFWS?	No Impact	No mitigation measures are required.	N/A
Impact 3.5-3: 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, filing, hydrological interruption, or other means?	Significant	Implement Mitigation Measures BIO-1a through BIO-1g and HAZ-1. **MM BIO-7a: Protect Streambeds and Watersheds.** Implementation of BMPs would prevent or minimize hazardous materials, construction debris, and mud, silt, or pollutants from entering drainages. Prohibiting maintenance and storage of vehicles in and near waters, containment kits, buffers around equipment maintenance, and immediate spill cleanup would be used to prevent oil leaks from contaminating waters. A Lake and Streambed Alteration Agreement (LSAA) from the CDFW and any applicable authorization from the RWQCB would direct BMPs and monitoring to avoid and minimize impacts to jurisdictional waters.	Less than Significant
Impact 3.5-4: Would the Project interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.5-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Significant	Implement Mitigation Measures BIO-1a through BIO-1g, BIO-3f through BIO-3g, and BIO-7a.	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.5-6: 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?	No Impact.	No mitigation measures are required.	N/A
Cultural Resources			
Impact 3.6-1: Would the Project cause a substantial adverse change in the significance of historical resources pursuant to §15064.5?	Significant	Implement Mitigation Measures TCR-1a and TCR-1b. **MM CUL-1a: Retain a Cultural Resources Specialist.** Prior to the start of construction, the Applicant shall propose a Cultural Resources Specialist (CRS) to manage and direct implementation of all cultural resources requirements during construction. The CRS shall have training and background that conforms to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61). The CRS shall be retained by the Applicant to supervise monitoring of construction excavations and to prepare the project's Cultural Resources Management Plan (see MM CUL-1b) for the approved project. The CRS shall be an archaeologist with demonstrated prior experience in the southern California desert and previous experience working with southern California Tribal Nations. A copy of the CRS' qualifications shall be provided to the CSLC for review and approval at least 60 days before the start of construction. **MM CUL-1b: Prepare and Implement a Cultural Resources Management Plan.** Prior to start of construction, the Applicant shall develop a Cultural Resource Monitoring Plan (CRMP) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant as well as address potential impacts to undiscovered buried archaeological resources and Tribal cultural resources associated with the approved Project. Specifics requirements of the CRMP are:	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• The CRMP shall be provided to the CSLC and the SMBMI representative for review and approval at least 60 days before the start of construction • The CRMP shall incorporate the results of preconstruction geoarchaeological testing including any project-related design or route changes that would successfully result in resource avoidance. Based on the geoarchaeological test results, the CRMP shall define the level of archaeological monitoring that is recommended. • The CRMP shall specify the level of tribal participation in monitoring, the qualifications for archaeological monitors, the handling of discoveries, and the process for evaluating unanticipated resources (as defined in MM CUL-1e) • The CRMP shall include provisions for treatment of cultural resources that are Native American in nature consistent with MM TCR-1b (Treatment of Cultural Resources; see Section 4.5, *Cultural Resources – Tribal)* **MM CUL-1c: Develop and Implement Cultural Resources Environmental Awareness Training.** Prior to ground disturbance, the CSLC-approved Cultural Resources Specialist will provide Cultural Sensitivity Training for all construction personnel. Training shall include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site. A copy of the agreement and a copy of the sign in sheet shall be kept ensuring compliance with this mitigation measure.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		MM CUL-1d: Archaeological Monitoring. Due to the heightened cultural sensitivity of the proposed project area, one or more California State Lands Commission staff- approved archaeological monitors with at least 3 years of regional experience in archaeology, shall be present for all ground-disturbing activities that occur within the approved Project area (including, but not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of archaeological monitors, under the direction of the CRS, shall be present each workday to ensure that simultaneously occurring ground disturbing activities receive appropriate levels of monitoring coverage, as defined in the CRMP (MM CUL-1b) and in MM TCR-1a (Tribal Monitoring) in Section 4.5, Cultural – Tribal Resources of the Stagecoach Solar Project EIR. The archaeological monitor(s) shall complete daily monitoring forms. The archaeological monitor(s), in coordination with the CRS, will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted. **MM CUL-1e: Unanticipated Discoveries.** If construction personnel unearth Tribal cultural resources, or precontact or historic-period archaeological resources during Project implementation, all Project activities within 100 feet will halt until the CRS or an approved archaeological monitor determines the significance of the discovery. Precontact archaeological materials/Tribal cultural resources might include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails. Historic period materials may include structural remnants (such as cement foundations), historic era objects (such as bottles and cans), and sites (such as refuse deposits or scatters).	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		After stopping Project activities, the approved archaeologist will determine impacts, significance, and mitigation in consultation with local Native American representatives. If the resource is a Tribal Cultural Resource, substantial adverse changes to this resource shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other equally or more effective measures are mutually agreed on by CSLC, the archaeologist, and the interested local Native American representative(s). A treatment plan, if needed to address a find, shall be developed cooperatively by the archaeologist and, for Tribal cultural resources, the interested local Native American representative(s). The plan will be submitted to the appropriate tribal representatives and CSLC staff for review, input, and concurrence prior to its implementation. Protection in place of Tribal cultural resources shall be prioritized, if feasible; if the archaeologist or Tribal representative determines that damaging effects on the cultural Tribal cultural resource can be avoided in place, then work in the area may resume provided the area of the find is clearly marked for no disturbance. If avoidance in place of tribal cultural resources is infeasible, the treatment plan shall include measures that place priority on Tribal self-determination over collection and curation, including the option to repatriate (rebury) materials nearby at a location of their choosing, and to transfer possession/ownership to the culturally affiliated Tribe. Title to all archaeological sites, historical or cultural resources, and Tribal cultural resources on State-owned school lands is vested in the state and under CSLC jurisdiction. The final disposition of archaeological, historical, and Tribal cultural resources recovered on state lands under CSLC jurisdiction must be approved by the CSLC.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		MM CUL-1f: Monitoring Report. Within 6 months of completing construction, a Cultural Resources Monitoring Report shall be submitted to the CSLC. The report shall include evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting and evidence that any artifacts have been treated in accordance with procedures stipulated in the Cultural Resources Management Plan. **MM CUL-1g: Avoidance of Environmentally Sensitive Area.** SCE shall protect site 3380-13, plus a 200-foot buffer, by installing exclusion fencing or other visible markings and labeling the site as an Environmentally Sensitive Area. SCE shall ensure that this site is not affected by any construction activity.	
Impact 3.6-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Significant	Implement Mitigation Measures CUL-1a through CUL-1f and TCR-1a and TCR-1b.	Less than Significant
Impact 3.6-3: Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Significant	**MM CUL-3: Treatment of Human Remains.** In accordance with state law (Health & Saf. Code, § 7050.5; Pub. Resources Code, § 5097.98), if human remains are found, all ground disturbing activities shall halt within 165 feet (50 meters) of the discovery and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on- site lead/foreman/CRS shall then immediately (within 24 hours) notify the County Coroner, the CSLC. No further excavation or disturbance within the ESA or any nearby area reasonably suspected to overlie potential remains shall occur until the County Coroner has determined whether the remains are subject to his or her authority. The County Coroner must make this determination within 2 working days of notification of the discovery (pursuant to Health & Saf. Code, § 7050.5, subd. (b)). If the County Coroner determines that the remains do not require an assessment of cause of death and that the remains are, or are believed to be Native American, the Coroner must notify the Native American Heritage Commission (NAHC) by telephone	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		within 24 hours, which must in turn immediately notify those persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD shall be allowed to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, CSLC, and other landowner if applicable, agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete their inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code section 5097.98. Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with California Public Resources Code section 5097.98, subdivisions (a) and (b). The MLD, in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. On-site reburial in a mutually agreed on location shall be accommodated as much as feasible. It is understood by all Parties that revealing the location of a site of any reburial of Native American human remains or cultural artifacts would endanger the remains or artifacts to vandalism and looting. Maintaining the confidentiality of such information helps respect and preserve reburials and artifacts. Accordingly, public agencies should withhold from public disclosure information related to such reburials or artifacts, pursuant to the specific exemption set forth in California Government Code section 6254, subdivision (r).	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Geology and Soils			
Impact 3.7-1i: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?	No Impact	No mitigation measures are required.	N/A
Impact 3.7-1ii: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.7-1iii: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.7-1iv: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	No Impact	No mitigation measures are required.	N/A
Impact 3.7-2: Would the Project result in substantial soil erosion or the loss of topsoil?	Significant	Implement Mitigation Measure AQ-1a.	Less than Significant
Impact 3.7-3: 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?	No Impact	No mitigation measures are required.	N/A
Impact 3.7-4: Would the Project 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?	Significant	**MM GEO-7: Assess Unstable Soils.** The project-specific geotechnical investigation(s) shall include evaluation of expansive and corrosive soils underlying Project components and if	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		necessary, develop recommendations to protect project structures from expansive or corrosive soil conditions. If expansive soils are identified, geotechnical recommendations to mitigate potential problems from expansive soils could include over-excavation and replacement with non-expansive fill, ground treatment processes, or redirection of surface water and drainage away from components underlain by expansive soils. If corrosive soils are identified, geotechnical design recommendations for the protection of steel reinforcement, concrete, and buried metal structural components could include use of corrosion resistant materials and coatings, increased thickness of project components exposed to corrosive soils, or use of passive or active cathodic protection systems. The geotechnical recommendations shall be incorporated in the final project design to reduce impacts related to expansive or corrosive soils. The geotechnical investigation report and project plans with any modifications made based on geotechnical recommendations should be submitted to CSLC for review 60 days prior to the start of construction.	
Impact 3.7-5: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact	No mitigation measures are required.	N/A
Impact 3.7-6: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Significant	**MM PAL-1a: Paleontological Worker Environmental Awareness Program.** A County of San Bernardino qualified professional paleontologist shall be retained by the project prior to beginning construction. They shall have an advanced degree (Master's or higher) in geology, paleontology, biology, or related disciplines (exclusive of archaeology). Additionally, they shall have at least 5 years professional experience with paleontological (not including cultural) resources, including the collection, identification, and curation of the resources (County of San Bernardino Development Code § 82.20.040).	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		The qualified professional paleontologist shall prepare a Paleontological Worker Environmental Awareness Program (WEAP), and training shall be provided for all staff who will be onsite during excavations. The WEAP shall show what local Pleistocene fossils look like in general, where they may appear in the project, and how to proceed should material suspected to be a fossil is encountered. If COVID-19 protocols are in place, a digital presentation which workers may view on their phones is recommended. **MM PAL-1b: Unanticipated Fossil Discovery.** Should fossils be encountered, construction work within 25 feet of the find(s) shall be halted and directed away from the discovery until the qualified professional paleontologist (defined in MM PAL-1a) can be contacted and come to the site to assess the significance of the resource. Where warranted, fossils will be excavated or otherwise recovered. Field data forms shall be used to record pertinent geologic data; stratigraphic sections shall be measured, and appropriate sediment samples will be collected and submitted for analysis from each fossil locality. Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a County of San Bernardino designated paleontological curation facility. Reporting shall be to CEQA standards (County of San Bernardino Development Code § 82.20.030).	
Greenhouse Gas Emissions			
Impact 3.8-1: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.8-2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	Less than Significant	No mitigation measures are required.	N/A

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Hazards and Hazardous Materials			
Impact 3.9-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Significant	**MM HAZ-1: Hazardous Materials Training and Management Plan.** Prior to approval of final construction plans, a Project-specific Hazardous Materials Training and Management Plan shall be prepared for the construction phase of the Project to ensure that accidental spills, leaks, or mishandling of hazardous materials does not result in contamination of soil or water. The plan is subject to CSLC approval, and shall include the following information related to hazardous materials, as applicable: • Hazardous Material Storage and Disposal Procedures. A list of the hazardous materials that will be present onsite during construction, including Material Safety Data Sheets (MSDSs) and other information regarding their storage, use, and transportation requirements. A description of the waste management and disposal procedures for any hazardous materials that will be used or generated during construction. Hazardous materials shall not be stored near drainages or waterways. • Training. The plan shall also include procedures for training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of construction. This would include training on hazardous material protocols and best management practices (BMPs). All project personnel shall be provided with project-specific training to ensure that all hazardous materials and wastes associated with the project are handled in a safe and environmentally sound manner and disposed of according to applicable rules and regulations. • Emergency Release Response Procedures. The Plan shall include emergency response procedures in the event of a release of hazardous materials. The Plan must prescribe	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		hazardous materials handling procedures for reducing the potential for a spill during construction and would include an emergency response program to ensure quick and safe cleanup of accidental spills. A list of spill response materials and the locations of such materials at the Project site during construction shall be included. All construction personnel, including environmental monitors, would be made aware of state and federal emergency response reporting guidelines for accidental spills. • Fueling and Maintenance of Construction Equipment. Written procedures for fueling and maintenance of construction equipment shall be included in the Plan. Refueling and maintenance procedures may require vehicles and equipment to be refueled on site or by tanker trucks. Procedures will require the use of drop cloths made of plastic, drip pans and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Equipment would be inspected daily for potential leakage or failures. Fueling shall not take place within 200 feet of drainages or waterways with flowing water or within 75 feet of drainages or waterways that are dry. The Hazardous Material Training and Management Plan shall be submitted to the CSLC 60 days prior to the start of construction for review, comment, and approval.	
Impact 3.9-2: 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?	Significant	**MM HAZ-3a: Aerially Deposited Lead Testing Program.** Prior to Project construction, an ADL soil testing program will be prepared and conducted to determine the presence and extent of ADL contaminated soils along and adjacent to Lucerne Valley Cutoff and SR-247 in areas where Project-related ground disturbance would occur. If ADL contaminated soil is identified, the Applicant shall coordinate with DTSC to determine appropriate handling, treatment, and disposal of any ADL contaminated soil.	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		The ADL Testing Program shall be submitted to the CSLC and Hazardous Materials Division of the San Bernardino County Fire Department 60 days prior to the start of construction for review, comment, and approval. **MM HAZ-3b: Soil and Groundwater Management Plan.** The Applicant shall prepare a Soil and Groundwater Management Plan that outlines how Proposed Project construction crews would identify, handle, and dispose of previously unidentified potentially contaminated soil and groundwater. Due to the potential for unknown contamination, the plan shall include the following requirements: • Identify the anticipated field screening methods and appropriate regulatory limits to be applied to determine proper handling and disposal of excavated soil spoils • Any suspect soil already excavated shall be segregated, and work will stop in the subject area until sampling and testing is done to determine appropriate treatment and disposal • Although dewatering during construction is unlikely, any water produced by dewatering shall be tested prior to disposal, which would be in accordance with all applicable regulations • Include requirements for documenting and reporting incidents of encountered contaminants, such as documenting locations of occurrence, sampling results, and reporting actions taken to dispose of contaminated materials. The Applicant shall immediately notify the Hazardous Materials Division of the San Bernardino County Fire Department and the CSLC in the event of encountering contaminated soil or groundwater. A weekly report listing encounters with contaminated soils and describing actions	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		taken shall be submitted to the CSLC and the County Fire Department. The Soil and Groundwater Management Plan shall be submitted to the CSLC and Hazardous Materials Division of the San Bernardino County Fire Department 60 days prior to the start of construction for review, comment, and approval.	
Impact 3.9-3: 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?	No Impact	No mitigation measures are required.	N/A
Impact 3.9-4: Would the Project be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact	No mitigation measures are required.	N/A
Impact 3.9-5: 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?	No Impact	No mitigation measures are required.	N/A
Impact 3.9-6: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Significant	Implement Mitigation Measure TRA-1.	Significant and Unavoidable
Impact 3.9-7: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Significant	**MM WIL-1: Expand Fire Prevention and Management Plan.** The Applicant (for the Stagecoach Facilities) and SCE (for SCE Calcite Facilities) shall expand their respective FMPPs to include additional standards for review and approval by the SBCFD, CSLC, and CPUC (for SCE Calcite Facilities) prior to initiation of construction. The draft Plan shall be provided to each listed agency at least 60	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		days before the start of any construction activities. The final Plan shall be approved by the CSLC, the CPUC, and SBCFD at least 30 days prior to the initiation of construction activities. The Applicant and SCE shall fully implement the Plan during construction, operation, and decommissioning activities. The expanded FMPP shall include, but not be limited, to the following elements: • Safety and design elements and standards, including, but not limited to, signage near the entrance of the BESS stating that the enclosure contains energized battery systems, electrical circuits, and type of batteries; continuous monitoring of the temperature and temperature control systems within the BESS enclosure; use of certified battery cells; and regular inspections of fire suppression equipment. Combustible materials shall not be stored inside or within 10 feet of the BESS enclosures. • Coordination with the local water supplier to ensure a sufficient on-site water supply. • Design shall ensure appropriate water pressure, equipment, and facilities for firefighting. • A fire suppression system shall be required, and fire suppression equipment shall be available to workers during construction, operation, and decommissioning. • An adequate number of Knox Boxes (or equivalent key boxes for emergency access) shall be available at main secured access areas to allow for rapid access for first responders. • Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		restrictions, proper use of gas-powered equipment, and hot work restrictions. • Daily monitoring of weather conditions and implementing work restrictions during Red Flag Warnings and High to Extreme Fire Danger days. • All internal combustion engines used at the Project site shall be equipped with spark arrestors that are maintained in good working order. • Once initial two-track roads have been cut and initial fencing completed, light trucks and cars shall be used only on roads where the roadway is cleared of vegetation. Mufflers on all cars and light trucks shall be maintained in good working order. • Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. • Equipment parking areas and small stationary engine sites shall be cleared of all flammable materials. • Fire suppression equipment requirements when spark-generating work is being implemented. • Smoking shall be prohibited in all vegetated areas and within 50 feet of combustible materials storage and shall be limited to paved areas or areas cleared of all vegetation. • Each Project construction site (including gen-tie construction locations) and the proposed solar generation plant site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires. • The Applicant shall coordinate with the SBCFD to create a training component for emergency first responders to	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		prepare for specialized emergency incidents (such as a fire at the BESS) that may occur at the Project site • All construction workers, plant personnel, and maintenance workers visiting the facilities and/or transmission lines to perform maintenance activities shall receive training on fire prevention procedures; the proper use of fire-fighting equipment; the proper handling, storage, and disposal of flammable materials; initial attack firefighting; and fire reporting. Each worker shall carry at all times a laminated card listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on contact cards shall be updated and redistributed to all crewmembers as needed, and outdated cards destroyed, prior to the initiation of construction activities on the day the information change goes into effect. Training records shall be maintained and be available for review by the SBCFD. • Vegetation near all solar panel arrays, ancillary equipment, and access roads shall be controlled through periodic cutting or spraying of weeds, in accordance with the requirements of MM BIO-1d (Weed Management) [as described in the *Stagecoach Solar Project Draft EIR*]. • The SBCFD shall be consulted during plan preparation and fire safety measures recommended by these agencies included in the plan. • The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations. • All on-site employees shall participate in annual fire prevention and response training exercises with the SBCFD.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• The plan shall list all applicable wildland fire management plans and policies established by state and local agencies and demonstrate how the Project will comply with these requirements. • The Applicant shall designate an emergency services coordinator from among the full-time, on-site employees who shall perform routine patrols of the site during the most active period of the fire season (defined as June 1 to October 31), equipped with a portable fire extinguisher and communications equipment. The Applicant shall notify the SBCFD of the name and contact information of the current emergency services coordinator in the event of any change. • Remote monitoring of all major electrical equipment (transformers and inverters) will screen for unusual operating conditions. Higher than nominal temperatures, for example, can be compared with other operational factors to indicate the potential for overheating, which under certain conditions could precipitate a fire. Units could then be shut down or generation curtailed remotely until corrective actions are taken. • Fires igniting onsite shall be immediately reported to the SBCFD. • The Applicant shall develop a project-specific O&M guide, incorporating the relevant CAL FIRE principles from the 2021 California Power Line Fire Prevention Field Guide (CAL FIRE 2021), specifically to govern the O&M procedures to be implemented for the Stagecoach Gen-tie Line. The engineering, procurement, and construction contract(s) for the Project shall clearly state the requirements of this mitigation measure. The Plan shall include methods for verification that all protocols and requirements are being followed.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Hydrology and Water Quality			
Impact 3.10-1: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality?	Significant	Implement Mitigation Measure HAZ-1.	Less than Significant
Impact 3.10-2: 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.10-3i: 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?	Significant	**MM HWQ-3: Drainage Plan Development.** At least 60 days before site mobilization, the Applicant shall submit a Drainage Plan for review and approval to the CSLC and the County of San Bernardino. The Drainage Plan shall address management of stormwater flow during Project construction and operation, and shall contain the following components: • An assessment of runoff discharges, floodplains, and flood depths entering and passing through the property under conditions both with and without the Project • Measures to avoid erosion damage that may result from concentration of flows, including consideration of providing dedicated entryways for incoming flood flows, collection and conveyance channels, and/or fence design that does not obstruct flows • Consideration of potential flood, erosion, and siltation that could occur on or adjacent to the Project site, by identifying off-site flow concentration points, discharges, and flood depths and widths, and ensuring that flow patterns entering and exiting the site are not altered in a manner that would induce erosion and siltation	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Demonstration that during and after Project construction, existing drainage patterns will not be disturbed, and runoff will not be increased to the extent that either adjacent properties or Project components (substation, O&M building, or BESS) would be adversely affected by erosion or flooding	
Impact 3.10-3ii: Would the Project substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site?	Significant	Implement Mitigation Measure HWQ-3.	Less than Significant
Impact 3.10-3iii: Would the Project 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?	Significant	Implement Mitigation Measure HAZ-1.	Less than Significant
Impact 3.10-3iv: Would the Project impede or redirect flood flows?	Significant	Implement Mitigation Measure HWQ-3.	Less than Significant
Impact 3.10-4: Would the Project be located in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to Project inundation?	Significant	Implement Mitigation Measure HWQ-3 and HAZ-1.	Less than Significant
Land Use and Planning			
Impact 3.11-1: Would the Project physically divide an established community?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.11-2: 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?	Significant	No mitigation measures are required.	Significant and Unavoidable

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Noise and Vibration			
Impact 3.12-1: 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?	Significant	**MM NOI-1a: Construction Restrictions.** Heavy equipment operation relating to any Project features shall be restricted to the hours between 7:00 a.m. and 7:00 p.m. on Monday through Saturday, and not allowed on Sundays or federal holidays, unless a special approval has been granted by the County of San Bernardino. **MM NOI-1b: Public Notification Process.** At least 15 days prior to the start of ground disturbance, the Project owner shall notify all residents within 1 mile of the Project site and the linear facilities, by mail or by other effective means, of the commencement of Project construction. Notification materials shall identify a mechanism for residents to register complaints with the appropriate jurisdiction if construction noise levels are overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification. At the same time, the Project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the Project. If the telephone is not staffed 24 hours a day, the Project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the Project site during construction where it is visible to passersby. This telephone number shall be maintained until the Project has been commercially operational for at least one year. **MM NOI-1c: Noise Complaint Process.** Throughout construction and operation of the Project, the Project owner shall document, investigate, evaluate, and attempt to resolve all Project-related noise complaints. The Project owner or authorized agent shall be	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem. **MM NOI-1d: Operational Noise Performance Standard.** The Project design and implementation shall include appropriate noise control features adequate to ensure that the operation of the Project will not cause the noise levels due to plant operation alone to exceed 45 dBA Leq measured at a property boundary of any inhabited dwelling [County Development Code Chapter 83.01.080(c)]. All step-up transformers and power inverters, and air handling units associated with the energy storage system shall be located, enclosed, or shielded, if necessary, to meet this standard. No new pure-tone components shall be caused by the power inverters or transformers associated with the Project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. To achieve this standard, the final Project design in site plans shall avoid placing stationary sources of noise within 1,000 feet of residential property boundaries. If the final design of the Project includes any stationary source of noise, including the battery storage system, heating, ventilation and air conditioners, inverters, or transformers within 1,000 feet of a residential property boundary, then a final noise study shall be submitted to the satisfaction of the appropriate jurisdiction demonstrating that noise will not exceed 45 dBA Leq at nearby property boundaries of any inhabited dwelling.	
Impact 3.12-2: Would the Project generate excessive groundborne vibration or groundborne noise levels?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.12-3: 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	No Impact	No mitigation measures are required.	N/A

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
expose people residing or working in the Project area to excessive noise levels?			
Transportation			
Impact 3.13-1: Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Significant	**MM TRA-1: Construction Traffic Control Plan.** Prior to the start of construction, the Applicant shall submit a Construction Traffic Control Plan (CTCP) for review and approval by the CSLC, Caltrans, and San Bernardino County. The CTCP shall address all roads that would be directly affected by the construction activities or would require permits and approvals. The CTCP shall include consideration of the specific contents defined below, as applicable to each component of the Proposed Project. The components defined herein may be modified based on agency consultation and on the final construction schedule and staffing levels. Applicable to All Components (Stagecoach Solar Generation Plant, Stagecoach Gen-tie Line, and SCE Calcite Facilities) – the Applicant shall: • Provide written notification to all property owners and tenants at properties affected by access restrictions to inform them about the timing and duration of obstructions and to arrange for alternative access if necessary. Initial notification defining the start of construction and the anticipated length of construction shall be included in the public notices defined in MM NOI-1b (Public Notification Process). Additional notices shall be provided if conditions or schedules change, at least one week prior to any change or road closures. • Stagger shifts for construction workers to spread associated traffic over longer times in the morning and evening to improve traffic flow and safety challenges resulting from all workers having the same starting and ending times.	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Restrict non-worker construction trips, to the maximum extent feasible, to outside the hours of 7:00-9:00 a.m. and 4:00-6:00 p.m. to increase safety and traffic flow through Apple Valley and Lucerne Valley during peak construction commuter hours. • Coordinate with the Cities of Victorville, Apple Valley, and Barstow to identify locations for park-and-ride carpooling lots within their communities and establish project-supported buses or vanpools from these locations. The purpose of this measure is to increase safety and maintain traffic flow by decreasing the number of trips on rural roadway segments that have low baseline traffic volumes. • Use flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc., at key locations according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices (FHWA 2021), the Standard Specifications for Public Works Construction (SFPUC 2021), and/or the California Manual on Uniform Traffic Control (Caltrans 2021) to ensure safe site ingress/egress and use of public roadways. • Implement a public outreach campaign (signage, direct mail, website, recorded telephone update line, newspaper notices, etc.) to notify the public of construction traffic routes and construction duration. • Install signage placed along the east and west shoulders of SR-247 at Sunset Road, Sunrise Road, and Rabbit Springs Road in the vicinity of Lucerne Valley Elementary School and Lucerne Valley Middle/High School notifying drivers of the school entrance and school traffic. Develop other provisions to ensure safe crossings of SR-247 by students at Lucerne	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Valley Elementary School and Lucerne Valley Middle/High School during peak Project commute hours and months. • Submit to the CSLC, Caltrans, the CHP, and San Bernardino County a description of required oversize vehicles anticipated, permits from Caltrans, and means to follow all safety requirements such as flaggers, flashing lights, and/or the use of continuous traffic breaks operated by the CHP on state highways (if necessary). • Develop plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Notify police departments and fire departments that serve the affected area in advance of the proposed locations, nature, timing, and duration of any roadway disruptions, areas of likely congestion, and access restrictions that could impact their effectiveness. At locations where roads will be blocked or constrained, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. • Develop and implement a method for maintaining close coordination with San Bernardino County and other federal and local agencies responsible for approving major projects that may include significant traffic volumes on shared segments of regional and local roadways where the majority of Project-related trips would occur. This coordination would allow Lead Agencies to consider staggering project construction timeframes to minimize the potential for multiple simultaneous construction projects affecting shared portions of the circulation system.	

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.13-2: Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.13-3: 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)?	Significant	Implement Mitigation Measure TRA-1.	Less than Significant
Impact 3.13-4: Would the Project result in inadequate emergency access?	Significant	Implement Mitigation Measure TRA-1.	Significant and Unavoidable
Tribal Cultural Resources			
Impact 3.14-1: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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)?	Significant	Implement Mitigation Measures CUL-1a through CUL-1g, and CUL-3. **MM TCR-1a: Tribal Monitoring**. Due to the heightened cultural sensitivity of the proposed project area, Tribal monitors representing the San Manuel Band of Mission Indians shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. **MM TCR-1b: Treatment of Cultural Resources.** If a pre-contact cultural resource is discovered during archaeological testing or during construction, the discovery shall be properly recorded and then reburied *in situ.* The Cultural Resources Management Plan (defined in MM CUL-1b) shall include a research design developed	Less than Significant

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		by the Cultural Resources Specialist (CRS) that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department, the CRS, and the CSLC shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary.	
Impact 3.14-2: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a 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?	Significant	Implement Mitigation Measures TCR-1a, TCR-1b, CUL-1a through CUL-1g, and CUL-3.	Less than Significant
Utilities and Service Systems			
Impact 3.15-1: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.15-2: Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Less than Significant	No mitigation measures are required.	N/A

Table ES-2. Summary of Calcite Substation Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.15-3: 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?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.15-4: Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than Significant	No mitigation measures are required.	N/A
Impact 3.15-5: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less than Significant	No mitigation measures are required.	N/A

Statement of Overriding Considerations

CEQA Guidelines Section 15093 requires the Lead Agency to balance, as applicable, the economic, legal, social, and technological, or other benefits of the Sienna Project against its unavoidable environmental risks when determining whether to approve the Sienna Project.

After thorough study and environmental review, as provided in this EIR, it was determined that Project-level impacts would not result in any significant and unavoidable impacts. All potentially significant impacts, after implementation of proposed mitigation measures, would be reduced to a less than significant level. However, as described in Chapter 5.0, Cumulative Impacts, although cumulative projects located within private lands and/or under the jurisdiction of the County of San Bernardino would be designed in accordance with the County's Policy Plan, which includes policies to protect visual resources in the County, and San Bernardino County Development Code, for many travelers along SR 247, the scenic experience would be substantially degraded due to the perceived "industrialization" of the landscape. This is considered a cumulatively considerable impact and would result in a significant and unavoidable impact.

Project Alternatives

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an EIR is set forth clearly and forthrightly within the CEQA statutes. Specifically, *CEQA Guidelines* Section 21002.1(a) states:

> "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (*CEQA Guidelines* Section 15126.6(a)). The *CEQA Guidelines* direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative should be designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (*CEQA Guidelines* Section 15126.6(e)(2)).

Alternatives Considered but Rejected

Alternative Site

Section 15126.6(f)(2) of the *CEQA Guidelines* addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed Project would be avoided or substantially lessened by constructing the proposed Project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the Project need to be considered for inclusion in the EIR. Further, *CEQA Guidelines* Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

The Sienna Project proponent does not have control of an alternate site. If control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed Project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. Furthermore, the incontiguous configuration of the Project location occurred due to difficulties in securing properties, and replicating an alternative site would likely be difficult to ascertain based upon this experience. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed Sienna Project, because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

Alternatives Carried Forward

The *CEQA Guidelines* require an EIR to “describe a range of reasonable alternatives to a project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives” (*CEQA Guidelines* Section 15126.6(a)). The Project alternatives are summarized below and in Table ES-3; additional information is provided in detail in Chapter 7, Alternatives, of this EIR.

Alternative 1: No Project Alternative

The *CEQA Guidelines* require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e)(1), “the specific alternative of ‘no project’ shall also be evaluated along with its impact.” Also, pursuant to Section 15126.6(e)(2); “The ‘no project’ analysis shall discuss the existing conditions at the time the notice of preparation is published, … at the time environmental analysis is commenced, 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 No Project Alternative assumes that the Project, as proposed, would not be implemented and the Project site would not be further developed with a solar energy project.

Alternative 2: Reduced Footprint Alternative

The purpose of this alternative is to reduce the size of the Project site to minimize impacts on agricultural resources and special-status plant and wildlife species. The Project site would be reduced by 655 acres from 1,854 acres to 1,1999 acres. The Reduced Footprint Alternative would avoid impacts to important

farmland designated “Farmland of Statewide Importance” located in the southern portion of the Sienna Project site, and reduce impacts to air quality, biological resources, cultural resources, hydrology and water quality, and tribal cultural resources due to the reduced construction footprint.

Table ES-3. Comparison of Alternative Impacts to Proposed Sienna Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Reduced Footprint Alternative
Aesthetics and Visual Resources	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)
Air Quality	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact

Environmental Issue Area	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Reduced Footprint Alternative
GHG Emissions	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Hydrology and Water Quality	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Noise and Vibration	Less than Significant Impact with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant Impact with Mitigation *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact

Environmental Issue Area	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Reduced Footprint Alternative
Utilities/Service Systems	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Less Impact

This page is intentionally blank.

1 Introduction and Purpose

1.1 Purpose of the Environmental Impact Report

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA Guidelines (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential, significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Compliance with CEQA

The County of San Bernardino (County) is the lead agency under CEQA pursuant to CEQA Guideline 15367 and has determined that an EIR is required for the Sienna Solar and Storage Project (State Clearinghouse No. 2022080518). 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 the CEQA Guidelines 14 California Code of Regulations (CCR) Section 15000 et seq (CEQA Guidelines).

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

The proposed Sienna Solar and Storage Project (herein referred to as "Sienna Project" or "solar and energy storage Project") and the Calcite Substation Project together represent the proposed Project for environmental evaluation purposes under CEQA (CEQA Guidelines Section 15378). The Sienna Project is proposed by 99MT 8ME, LLC (Applicant) and the Calcite Substation Project is proposed by Southern California Edison (SCE). The Sienna Project will interconnect at the SCE Calcite Substation (currently pending environmental clearance and construction) via a proposed overhead and/or underground 230-kV gen-tie line in addition to other ancillary facilities utilizing private and potentially public Rights of Way (ROWs). Because it is a necessary infrastructure improvement to allow the Sienna Project to connect to the grid, the Calcite Substation is considered a connected project for the purposes of CEQA review.

Information pertaining to the Calcite Substation is incorporated by reference from the *SCE Calcite Substation Detailed Project Description* (SCE 2021) and the *Stagecoach Solar Project Draft EIR* (State Clearinghouse No. 2020100234) (California State Lands Commission 2021) pursuant to CEQA Guidelines Section 15150(a), which states:

> An EIR or Negative Declaration may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or

part of another document is incorporated by reference, the incorporated language shall be considered set forth in full as part of the text of the EIR or Negative Declaration.

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 Project construction and operational activities 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, this 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 potentially significant 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 (unmitigated) even with implementation of proposed mitigation measures in this EIR.

1.2 Availability of Reports

This Draft EIR and the documents incorporated by reference in this EIR are available for public review during regular business hours at the County of San Bernardino Land Use Services Department, 385 North Arrowhead Avenue, 1st Floor, San Bernardino CA 92415. Copies are also available for review online at: https://lus.sbcounty.gov/planning-home/environmental/desert-region/

Comments received during the public review period of the Draft EIR will be reviewed and responded to in the Final EIR. The Final EIR will then be reviewed by the County of San Bernardino Planning Commission and Board of Supervisors as a part of the procedure to adopt the EIR. Additional information on this process may be obtained by contacting the County of San Bernardino Land Use Services Department at (909) 387-8311.

Notice of Preparation/Early Consultation

The County of San Bernardino issued a Notice of Preparation (NOP) for the preparation of an EIR for the Sienna Solar and Storage Project on August 23, 2022. The NOP was distributed to city, county, state, and federal agencies, other public agencies, and various interested private organizations and individuals, and adjacent property owners in order to define the scope of the EIR. The purpose of the NOP was to identify public agency and public concerns regarding the potential impacts of the Project, and the scope and content of environmental issues to be addressed in the EIR. The comments submitted on the NOP during the public review and comment period are included as Appendix A to this EIR.

Scoping Meeting

Additionally, a virtual scoping meeting for the general public as well public agencies was held on September 14, 2022 at 6:00 p.m., to further obtain input as to the scope of environmental issues to be

examined in the EIR. At the scoping meeting, members of the public were invited to ask questions regarding the proposed Project and the environmental review process, and to comment both verbally and in writing on the scope and content of the EIR. Seven attendees were present at the scoping meeting. No written comment letters were received during the scoping meeting. Three oral comments were provided during the scoping meeting.

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 the proposed Project, if any, might be avoided or mitigated.

Comment letters should be sent to:

Jim Morrissey, Contract Planner
County of San Bernardino
Land Use Services Department
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415
Phone: (909) 387-4234
Email: Jim.Morrissey@lus.sbcounty.gov

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

1.3.1 Environmental Topics Addressed

Based on the analysis presented in the NOP and the information provided in the comments to the NOP, the following environmental topics are analyzed in this EIR:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas (GHG) Emissions
- Hazards and Hazardous Materials

- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Eliminated from Further Review in Notice of Preparation

Based on the Initial Study and Notice of Preparation (IS/NOP) prepared for the Sienna Project (Appendix A of this EIR), San Bernardino County (County) has determined that the Sienna Project would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR. The rationale for eliminating these topics is discussed in Chapter 6.0, Effects Found Not Significant.

- Forestry Resources
- Energy
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Wildfire

1.3.2 Areas of Controversy and Issues to be Resolved

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public as well as issues to be resolved. A primary issue associated with this solar farm Project and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this Project, other areas of concern and factors to be resolved include potential impacts related to the conversion of farmland to non-agricultural uses, damage to crops/vegetation, special-status plants and wildlife, hydrology and water quality, water supply, cultural/tribal resources, traffic/circulation, public services regarding fire hazards associated with the battery energy storage system, air quality to surrounding properties, health effects from air pollution, noise, and hazardous materials, and change of visual character. These areas of controversy are addressed throughout this EIR.

1.3.3 Document Organization

The structure of the Draft EIR is identified below. The Draft EIR is organized into nine chapters, including the Executive Summary.

- The **Executive Summary** provides a summary of the proposed Project, including a summary of Project impacts, mitigation measures, and Project alternatives.

- **Chapter 1 Introduction** provides a brief introduction of the proposed Project, including: Its relationship to statutes, regulations and other plans; the purpose of an EIR; public participation opportunities; availability of reports, and; comments received on the NOP.
- **Chapter 2 Project Description** provides a description of the Sienna Solar and Storage Project. This chapter also defines the goals and objectives of the proposed Project, provides details regarding the individual components that together comprise the Project, and identifies the discretionary approvals required for implementation of the Project.
- **Chapter 3 Environmental Analysis** provides a description of the existing environmental setting and conditions, an analysis of the environmental impacts of the Project for the following environmental issues: Aesthetics; agricultural resources; air quality; biological resources; cultural resources; geology and soils; GHG emissions; hazards and hazardous materials; hydrology and water quality; land use and planning; noise and vibration; transportation; tribal cultural resources, and; utilities and service systems. This chapter also identifies mitigation measures to address potential impacts to the environmental topics identified above.
- **Chapter 4 Alternatives** analyzes the alternatives to the proposed Project.
- **Chapter 4 Other CEQA Consideration** provides an analysis of growth inducing impacts, significant irreversible environmental changes, and unavoidable adverse impacts.
- **Chapter 5 Cumulative Impacts** analyzes the impact of the proposed Project in conjunction with other planned and future development in the surrounding areas.
- **Chapter 6 Effects Found Not to be Significant** lists all the issues determined to not be significant as a result of the preparation of this EIR.
- **Chapter 7 Alternatives** analyzes the alternatives to the proposed Project.
- **Chapter 8 EIR Consultation and Preparation** lists all the individuals and companies involved in the preparation of the EIR, as well as the individuals and agencies consulted and cited in the EIR.
- **Chapter 9 References** lists the data references utilized in preparation of the EIR.

This page is intentionally blank.

2 Project Description

The County of San Bernardino, as the lead agency under the CEQA, has prepared this Environmental Impact Report (EIR) for the Sienna Solar and Storage Project (the Project or proposed Project).

The Project description is provided in conformance with CEQA Guidelines Section 15124. This section discusses the geographic setting, Project location, Project setting, current County land use and official land use districts, Project objectives, and discretionary actions required to implement the Project. This information is the basis for analyzing the Project's impacts on the existing physical environment in Section 3.0 of this EIR.

The proposed Sienna Solar and Storage Project (herein referred to as "Sienna Project" or "solar and energy storage Project") and the Calcite Substation Project together represent the proposed Project for environmental evaluation purposes under CEQA (CEQA Guidelines Section 15378). The Sienna Project is proposed by 99MT 8ME, LLC (Applicant) and the Calcite Substation Project is proposed by SCE. The Sienna Project will interconnect at the SCE Calcite Substation (currently pending environmental clearance and construction) via a proposed overhead and/or underground 230-kV gen-tie line, in addition to other ancillary facilities utilizing private and potentially public Rights of Way (ROWs). Because it is a necessary infrastructure improvement to allow the Sienna Project to connect to the grid, the Calcite Substation is considered a connected project for the purposes of CEQA review.

99MT 8ME, LLC (Applicant) is requesting approval of a Conditional Use Permit (CUP) to develop the Sienna Project, a utility scale, solar photovoltaic (PV) electricity generation facility that would produce up to 525 megawatts (MW) of solar power and include up to 525 MW of energy storage capacity in a battery energy storage system (BESS) within an approximately 1,854-acre Project site.

Energy generated by the proposed Project will be transmitted to SCE's electric grid via an interconnection with the proposed Calcite Substation. SCE proposes to construct and operate the Calcite Substation on approximately 7 acres, with an additional 4 acres for drainage, grading and access road, located on a portion of a 75-acre parcel of land on the west and east sides of State Route (SR) 247, directly north of Haynes Road, in San Bernardino County. The Calcite Substation is a necessary infrastructure improvement to allow both the proposed Sienna Solar and Energy Storage Project, as well as the proposed Stagecoach Solar Project, a separate project proposed by the State Lands Commission, to connect to the grid. Potential environmental impacts of the Calcite Substation Project are analyzed in the *Stagecoach Solar Project EIR* (State Clearinghouse No. 2020100234) prepared by the California State Lands Commission (CSLC). Information pertaining to the Calcite Substation is incorporated by reference from the *SCE Calcite Substation Detailed Project Description* (SCE 2021) and the *Stagecoach Solar Project Draft EIR* (State Clearinghouse No. 2020100234) (California State Lands Commission 2021) pursuant to CEQA Guidelines Section 15150(a). The Stagecoach Solar Project is currently in the environmental review process.

The Sienna Project consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) BESS, and; 3) on- and off-site gen-tie line that would connect the proposed on-site substation to the point of interconnection at the SCE Calcite Substation. The SCE Calcite Substation is a related project.

2.1 Sienna Project Location

The proposed Sienna Project is located on approximately 1,854-acres in the southwestern portion of the Mojave Desert and includes the Lucerne Dry Lake, in unincorporated San Bernardino County, California. The Sienna Project is predominately located east of State Route 247 (Barstow Road/SR 247), north of the unincorporated community of Lucerne Valley, with portions of the generation-interconnect (gen-tie) alternative corridors that include possible connections along Haynes Road, Huff Road, and Northside Road to the east of Barstow Road. The site is generally located approximately 35 miles south of Barstow, 45 miles northwest of the town of Yucca Valley, 15 miles southeast of the town of Apple Valley, and 20 miles north of the city of Big Bear Lake. Barstow Road would provide primary access to the Sienna Project. Land uses in the area are primarily rural residential, recreation, farmland, open space, and transportation corridors. Figure 2-1 depicts the regional location of the Sienna Project area. Figure 2-2 depicts the 27 parcels that comprise the Sienna Project site, and Table 2-1 lists the parcels, acreage, and zoning designations of each.

2.2 Calcite Substation Location

As shown in Figure 2-2, the proposed Calcite Substation is located approximately 4-5 miles northwest of the Sienna Project area, within a 75-acre parcel (APN 0453-041-07) that occupies areas land both east and west of SR 247 (Barstow Road), directly north of Haynes Road, in San Bernardino County. The Calcite Substation is located approximately 9.1 miles south of the proposed Stagecoach Solar Project. The Stagecoach Solar Project is located approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley. Figure 5-1 (provided in EIR Section 5 Cumulative Impacts) depicts the general location of the Stagecoach Solar project in relation to the proposed Calcite Substation Site and the proposed Sienna Solar Project.

2.3 Existing Site Conditions

2.3.1 Sienna Project

Existing conditions within the Sienna Project area are characterized by a mixture of residential properties, undeveloped playa and desert scrub communities, and agricultural land that includes alfalfa and jojoba farms and large-scale hemp growing operations. Existing land use within the Sienna Project area and within the vicinity is primarily rural residential, recreation, farmland, open space, and transportation corridors.

2.3.2 Calcite Substation

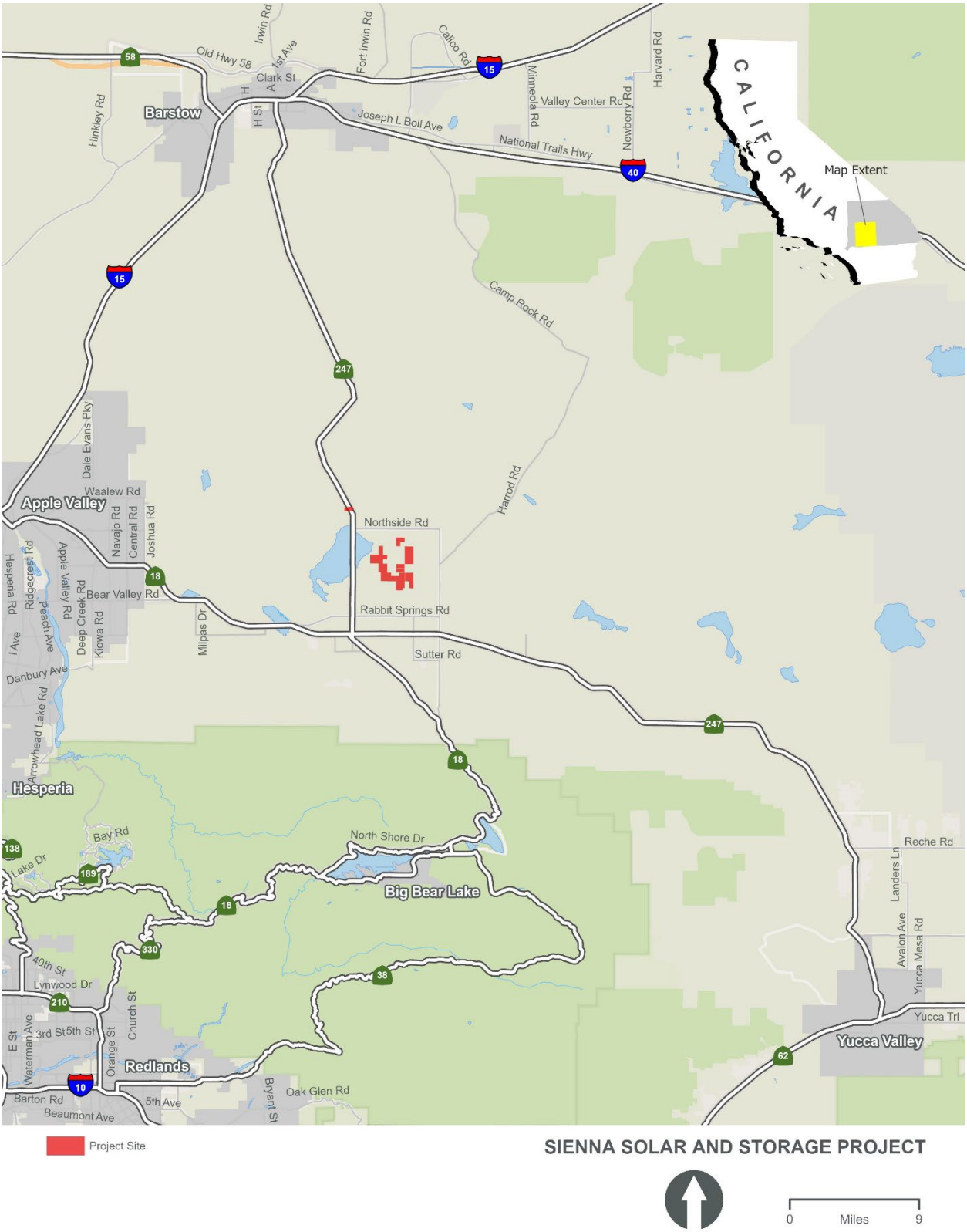
According to the *Stagecoach Solar Project Draft EIR*, the 75-acre parcel upon which the proposed Calcite Substation would be located is comprised of vacant land characterized by scattered low- to medium-lying creosote scrub and other typical desert vegetation. SR-247 runs diagonally from the northwest to the southeast through the parcel, although the substation and its interconnection with the existing 220 kV transmission line would be entirely on the west side of SR-247 (California State Lands Commission 2021).

Table 2-1. Sienna Solar and Storage Project Parcels

No.	APN	Gross Acreage	Zoning
1	0452-391-08	80.02	Lucerne Valley – Agriculture (LV/AG)
2	0452-391-09	39.92	LV/AG
3	0452-071-10	80.40	LV/AG
4	0452-071-11	154.90	LV/AG
5	0452-071-19	40.21	LV/AG
6	0452-071-20	40.20	LV/AG
7	0452-071-25	40.21	LV/AG
8	0452-062-21	40.20	LV/AG
9	0452-062-22	76.44	LV/AG
10	0452-062-23	80.45	LV/AG
11	0452-062-24	84.48	LV/AG
12	0452-112-20	70.21	LV/AG
13	0452-112-24	89.90	LV/AG
14	0452-112-25	103.45	LV/AG
15	0452-121-12	80.72	LV/AG
16	0452-121-42	70.85	LV/AG
17	0452-121-38	5.01	LV/AG
18	0452-121-39	12.55	LV/AG
19	0452-121-52	10.19	LV/AG
20	0452-121-48	33.29	LV/AG
21	0452-113-17	151.40	LV/AG
22	0452-112-17	8.83	LV/AG
23	0452-112-18	64.73	LV/AG
24	0452-112-19	73.47	LV/AG
25	0452-371-01	161.27	Lucerne Valley – Rural Living (5 Acre Minimum) (LV/RL-5)
26	0452-361-47	80.71	LV/RL-5
27	0452-361-46	80.67	LV/RL-5
TOTAL ACREAGE		**1,854.68**	**--**

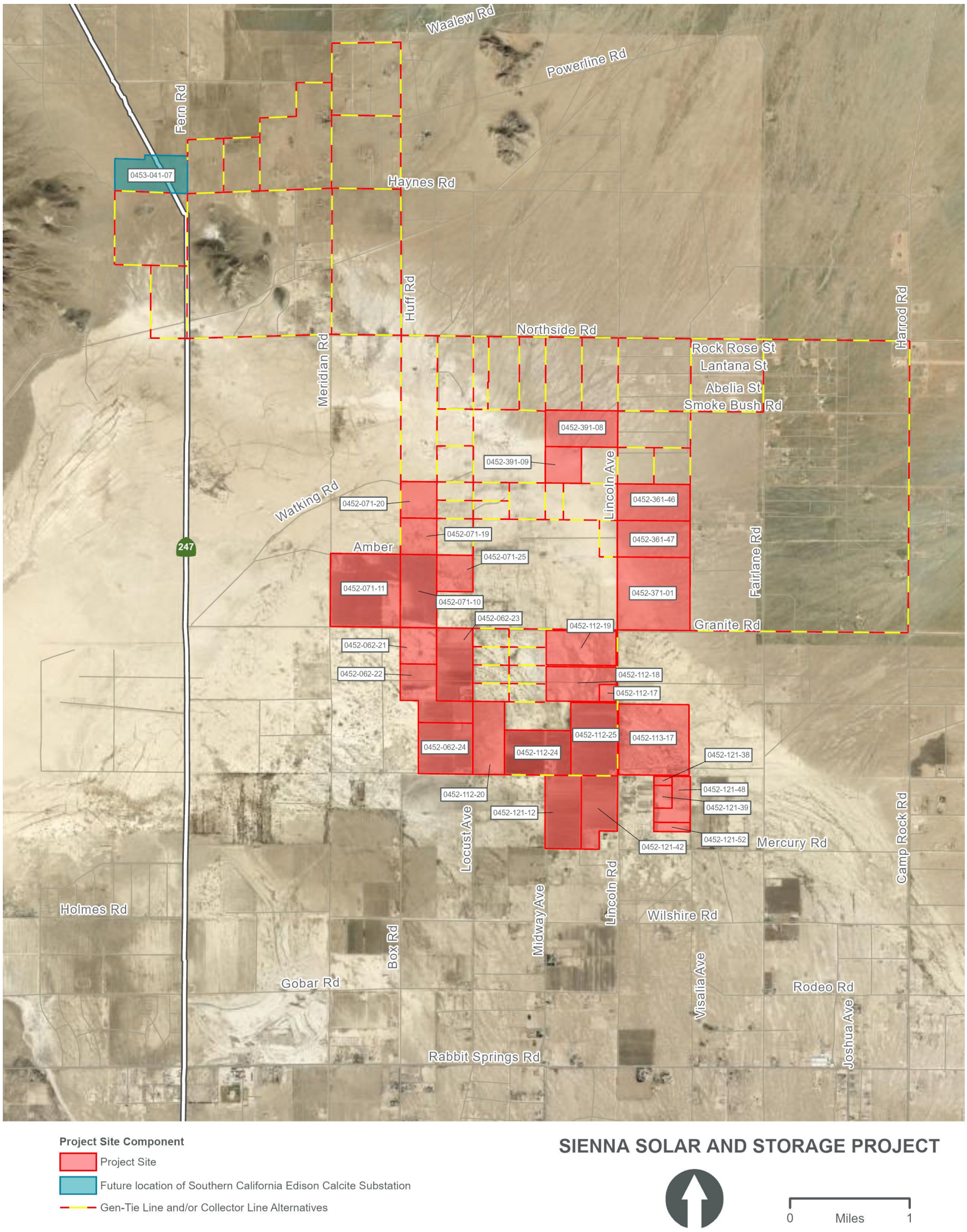
Notes:
LV/AG=Lucerne Valley – Agriculture; LV/RL=Lucerne Valley – Rural Living

Figure 2-1. Regional Vicinity Map



.

Figure 2-2. Local Vicinity Map



This page is intentionally blank.

2.4 Renewable Energy Regulation

Over the last decades, the state has mandated that public utilities acquire more renewable energy, including solar-generated electricity. The resulting influx of applications to the County for commercial solar energy generation projects, coupled with concerns about the adequacy of the County's land use regulation of such projects, prompted the Board of Supervisors (Board) to enact a temporary moratorium on June 12, 2013 (Item 12). On December 17, 2013 (Item No. 103), the Board adopted an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities, of the Development Code and terminating the moratorium. These amendments established 31 specific findings that must be made for approval of a commercial solar energy generation project.

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) project (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.

The Planning Commission conducted a public hearing on May 24, 2018, recommending that the Board: (1) amend the RECE by adopting Policy 4.10; (2) amend Policy 5.2 to add existing energy generation sites to those identified as suitable for utility-oriented renewable energy generation projects, and; (3) add Policy 5.9 (collaborating with utilities, the California Energy Commission, and the Bureau of Land Management to plan for renewable energy generation facilities to be located on public lands, apart from existing unincorporated communities). Thereafter, on February 28, 2019 (Agenda Item 1), the Board considered and adopted the Planning Commission recommendation. Subsequently, on October 27, 2020 (Agenda 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 Land Use Districts, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Code Section 65943 before the effective date of the resolution. The County issued letters indicating that the CUP applications for the Sienna Project were accepted as complete on August 14, 2017 and February 27, 2018. The Sienna Project is not subject to Policy 4.10 as the application for development was accepted as complete by the County prior to the effective date of the resolution (February 28, 2019).

2.5 Land Use Designations and Zoning

2.5.1 Sienna Project

The Sienna Project site is designated as Resource Land Management (RLM) and Rural Living (RL) in the San Bernardino Countywide Plan. The Sienna Project site is located within the boundaries of the Lucerne Valley Community Plan and zoned "Lucerne Valley – Agriculture" (LV/AG) and "Lucerne Valley – Rural Living (5 Acre Minimum)" (LV/RL-5). Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable

energy generation facilities on AG and RL land, subject to County approval of a Conditional Use Permit (CUP).

The Sienna Project is being designed in accordance with San Bernardino County's Solar Ordinance (an ordinance amending Development Code Chapter 84.29, Renewable Energy Generation Facilities) and the County's General Plan Renewable Energy and Conservation Element (San Bernardino County 2020), which strives to preserve the character of the Project area and surrounding communities.

2.5.2 Calcite Substation

According to the *Stagecoach Solar Project Draft EIR*, the 75-acre parcel where the proposed Calcite Substation would be located on vacant land that is designated RLM. However, the substation is under the jurisdiction of the CPUC, thereby exempting it from local land use requirements (California State Lands Commission 2021).

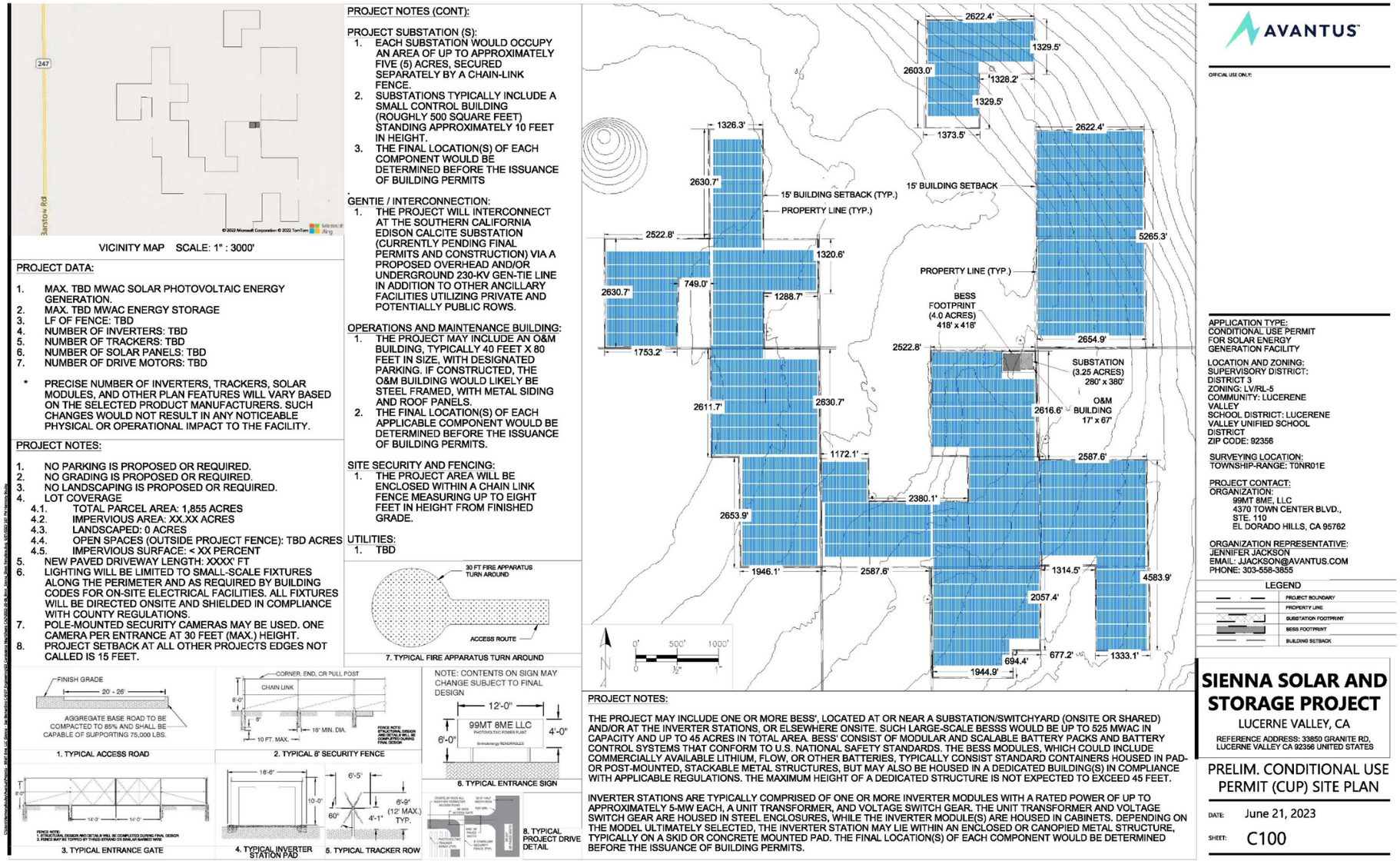
2.6 Project Objectives

- 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
- Support California's Renewables Portfolio Standard (RPS) Program consistent with the timeline established by 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
- To provide energy to the electric grid to meet increasing demand for in-state generation
- Interconnect directly to the SCE electrical transmission system
- Promote the County's role as the State's leading producer of renewable energy
- Utilize a location that is in close proximity to existing powerlines and the proposed SCE Calcite Substation

2.7 Project Characteristics

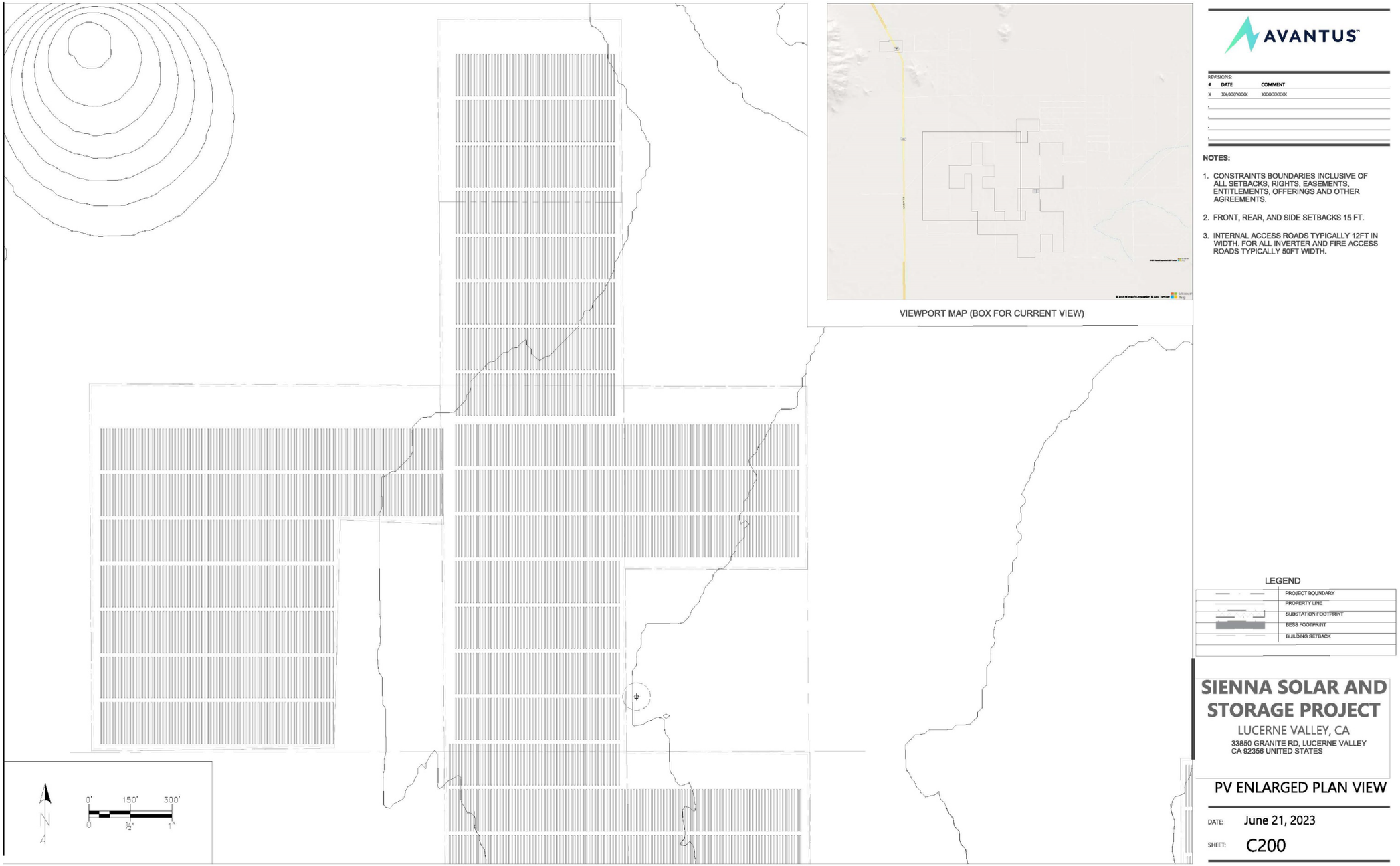
The Sienna Project consists of the construction and operation of a photovoltaic (PV) solar facility, battery energy storage system (BESS), Project substation, operations and maintenance building(s), underground collection system, 230 kV gen-tie line (on- and off-site), and other ancillary facilities. Figure 2-3 through Figure 2-9 depicts the conceptual site plan. The Project will interconnect at the proposed SCE Calcite Substation (currently pending final permits and construction) via a proposed overhead and/or underground 230-kV gen-tie line in addition to other ancillary facilities utilizing private and potentially public ROWs. Approximately 39 miles of collector lines and gen-tie alternatives will be analyzed in this EIR, although not all routes will be developed, depending upon cost, engineering feasibility, and environmental impacts.

Figure 2-3. Site Plan (Sheet 1 of 7)



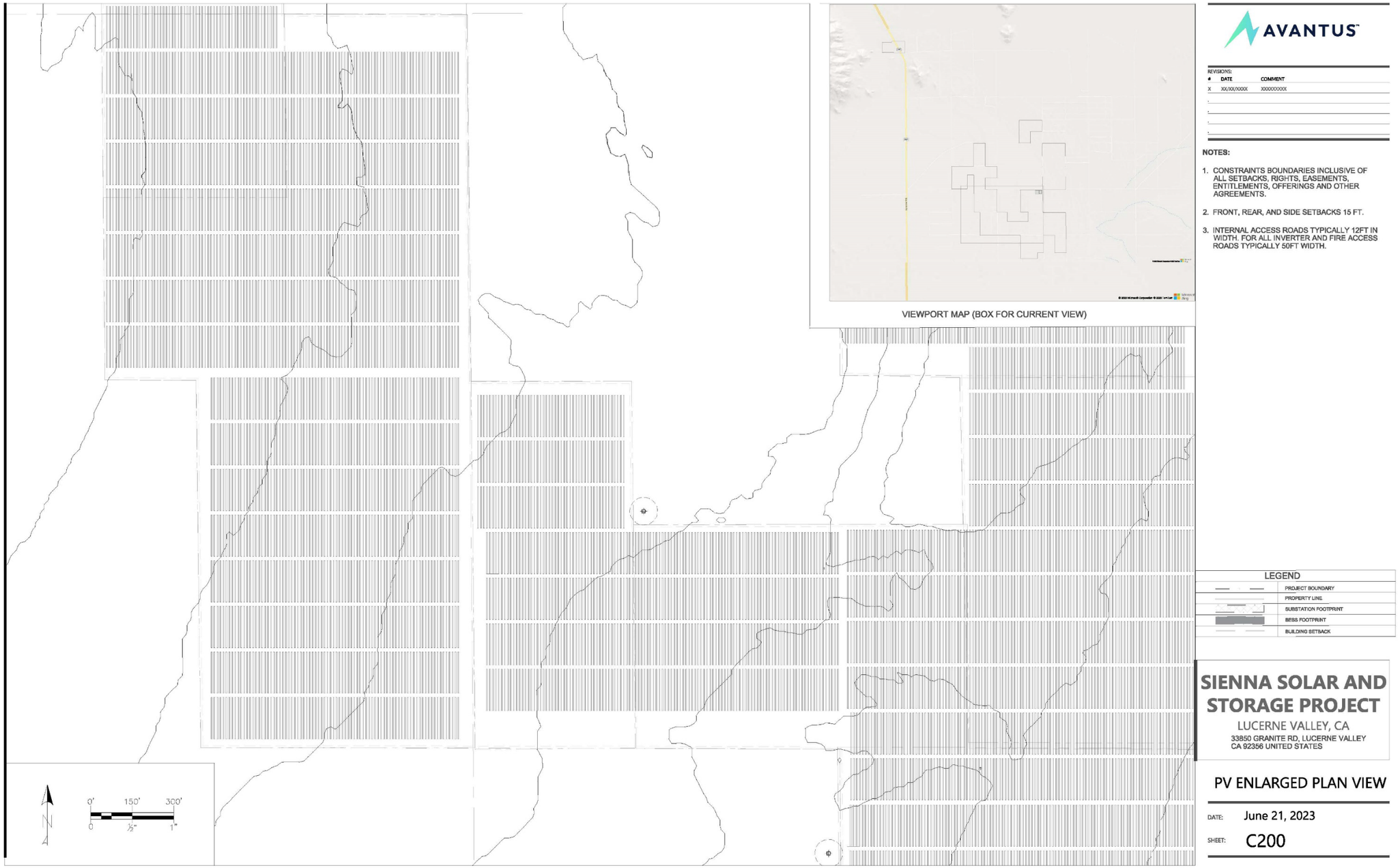
This page is intentionally blank.

Figure 2-4. Site Plan (Sheet 2 of 7)



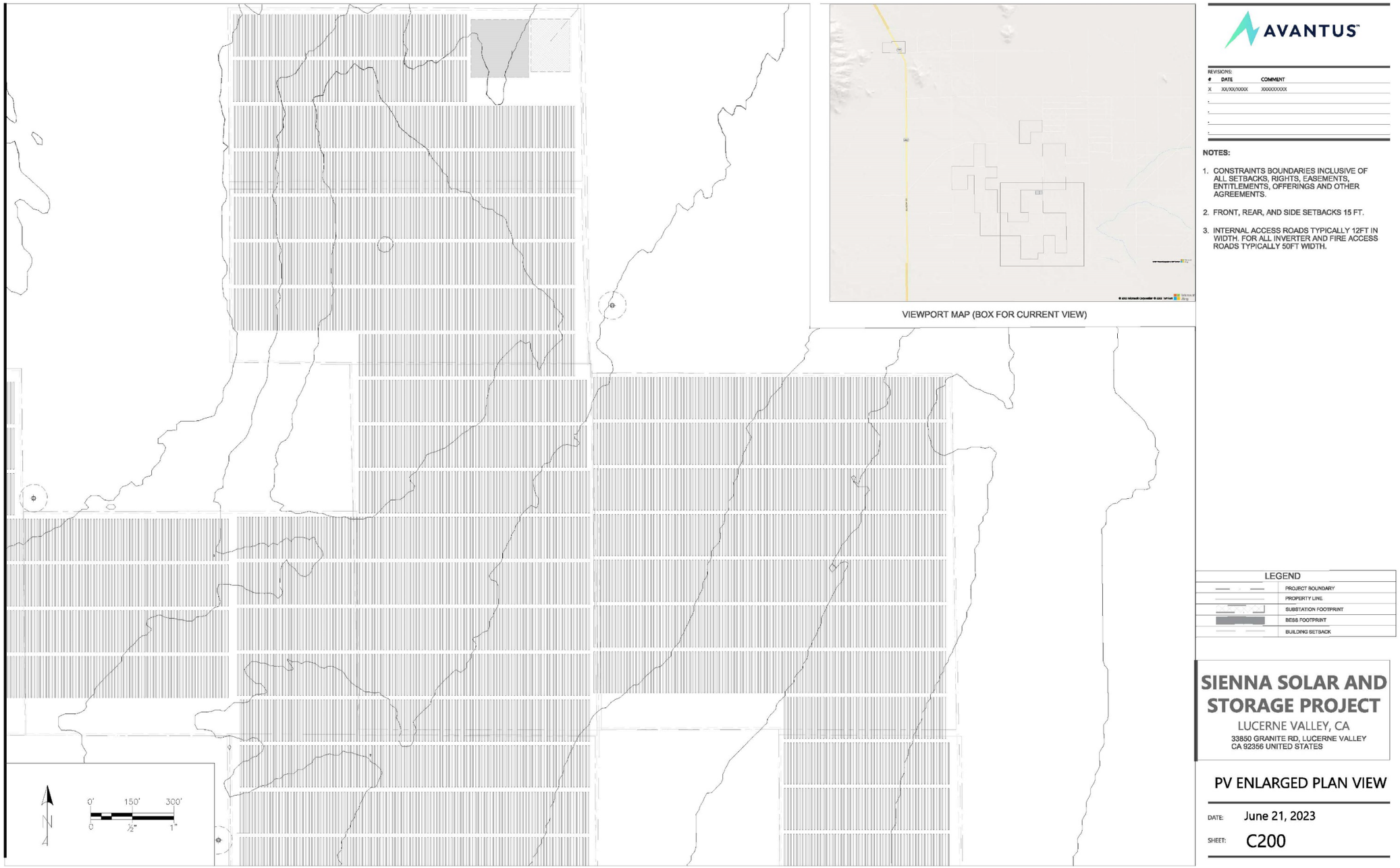
This page is intentionally blank.

Figure 2-5. Site Plan (Sheet 3 of 7)



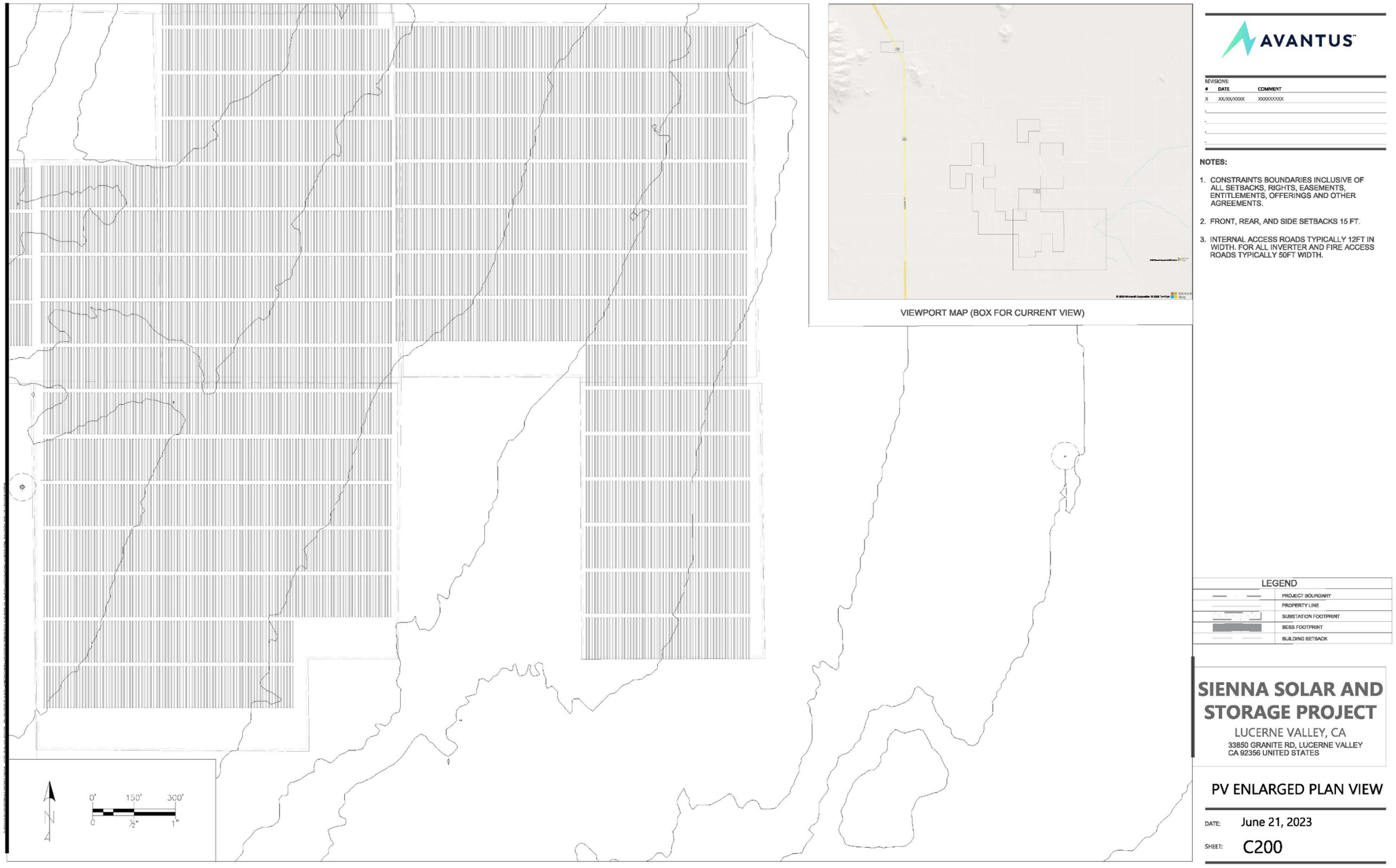
This page is intentionally blank.

Figure 2-6. Site Plan (Sheet 4 of 7)



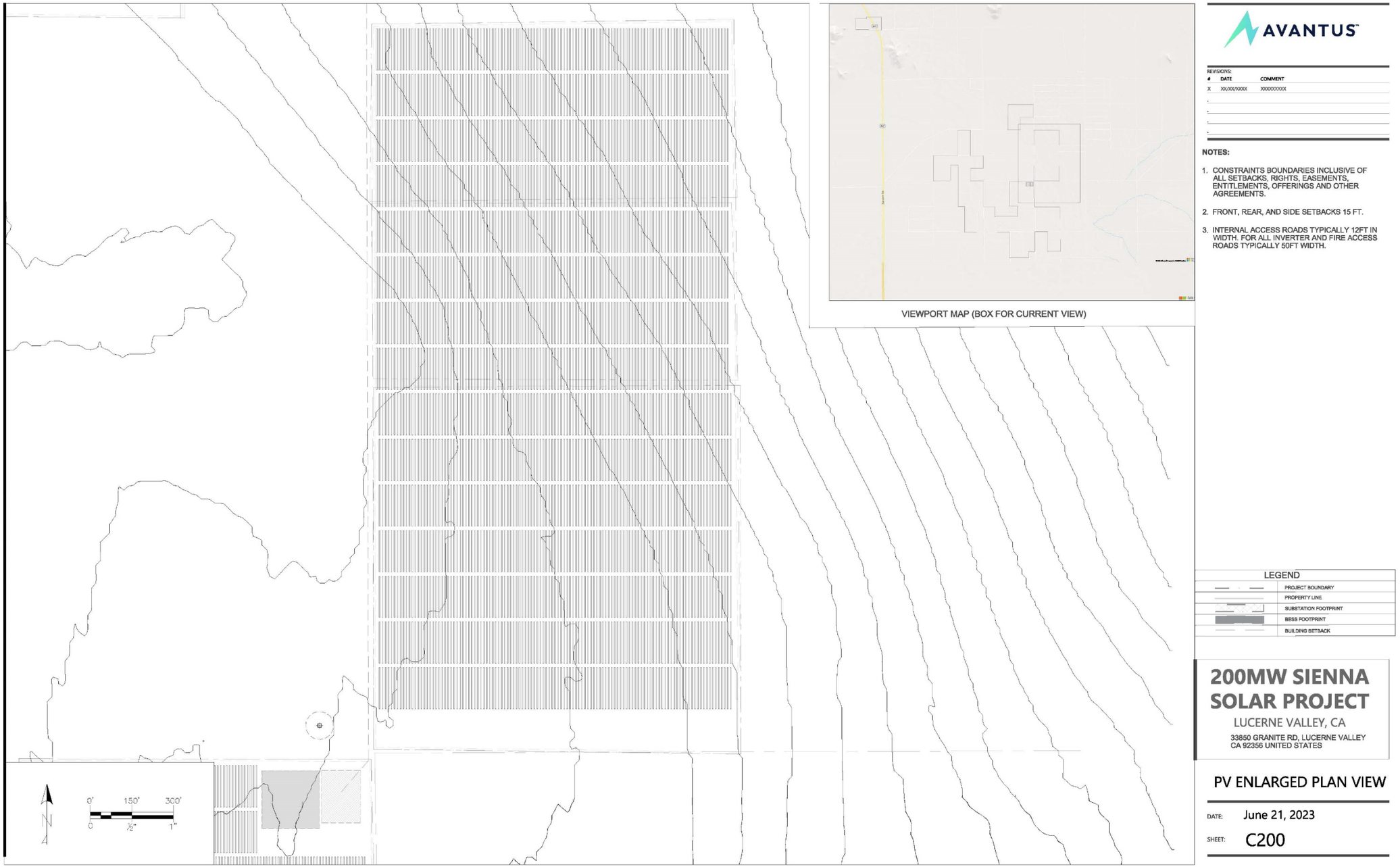
This page is intentionally blank.

Figure 2-7. Site Plan (Sheet 5 of 7)



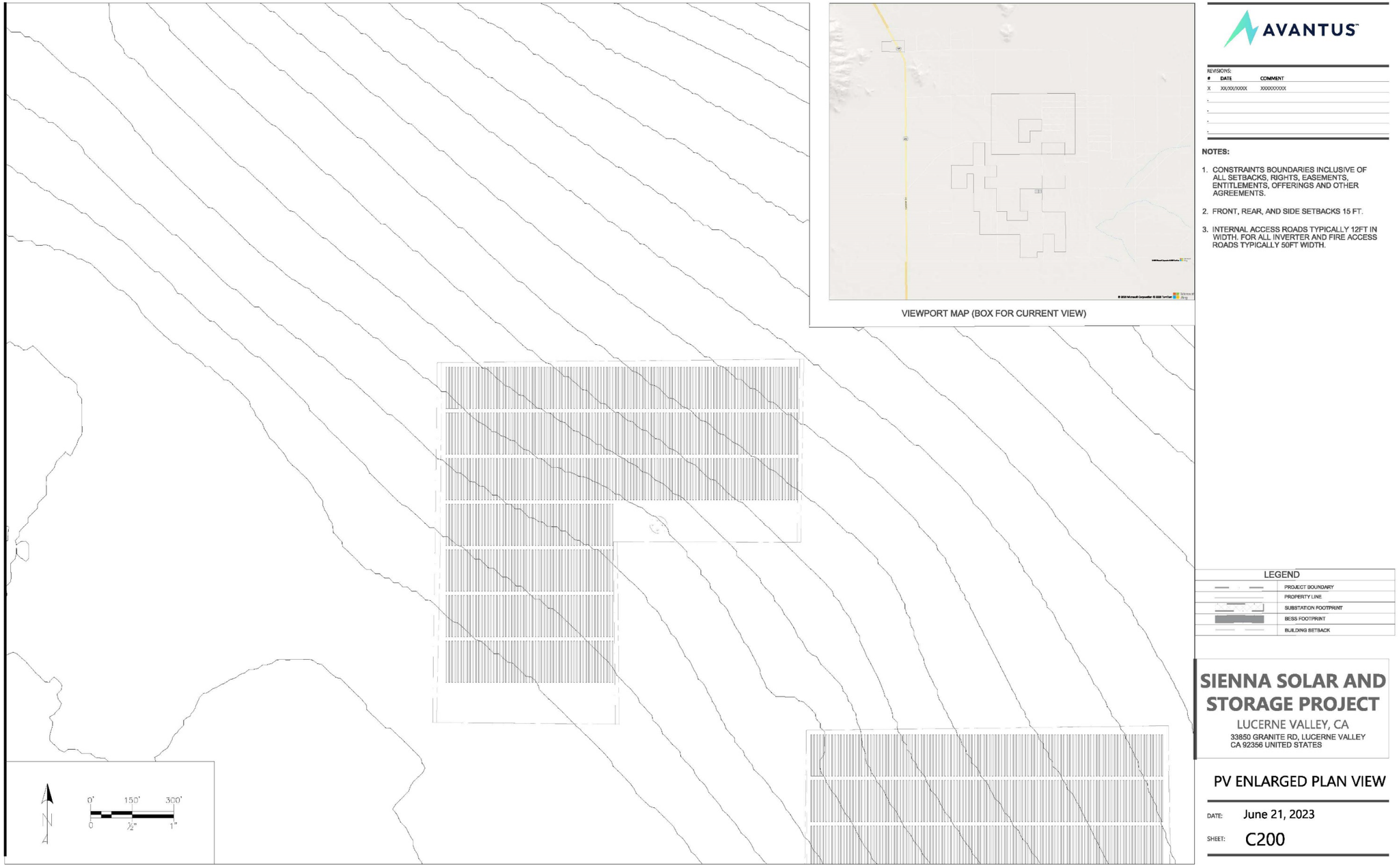
This page is intentionally blank.

Figure 2-8. Site Plan (Sheet 6 of 7)



This page is intentionally blank.

Figure 2-9. Site Plan (Sheet 7 of 7)



This page is intentionally blank.

2.7.1 Sienna Project

2.7.1.1 Photovoltaic Panels/Solar Arrays

The proposed Sienna Project will use PV panels or modules (including but not limited to bi-facial or concentrated PV technology) on mounting frameworks to convert sunlight directly into electricity. Individual panels will be installed on either fixed-tilt or tracker mount systems (single- or dual-axis, using galvanized steel or aluminum). If the panels are configured for fixed tilt, they will be oriented toward the south. For tracking configurations, the panels will rotate to follow the sun over the course of the day. The solar panels will be consistent with panel dimensions that are widely used in commercial solar installations in California and will conform to County building code requirements. Figure 2-10 depicts representative examples of photovoltaic panel/mounting configurations.

The solar panel array will be arranged in groups referred to as “blocks”, with inverter stations generally located centrally within the blocks. Blocks will produce direct electrical current (DC), which is converted to alternating current (AC) at the inverter stations.

Each PV module will be placed on a fixed-tilt or tracker mounting structure. The foundations for the mounting structures can extend up to 8 feet below ground, depending on the structure, soil conditions, and wind loads, and may be encased in concrete or use small concrete footings. Final solar panel layout and spacing will be optimized for Project area characteristics and the desired energy production profile.

2.7.1.2 Battery Energy Storage System

The Sienna Project may include one or more BESS’, located at or near a substation/switchyard (onsite or shared) and/or at the inverter stations, or elsewhere onsite. The large-scale BESSs would be up to 525 MWac in capacity and occupy up to 45 acres in total area. BESS’ consist of modular and scalable battery packs and battery control systems that conform to U.S. national safety standards. The BESS modules, which could include commercially available lithium, flow, or other batteries, typically consist of standard containers housed in pad- or post-mounted, stackable metal structures, but may also be housed in a dedicated building(s) in compliance with applicable regulations. The maximum height of a dedicated structure is not expected to exceed 45 feet. The actual dimensions and number of energy storage modules and structures vary depending on the application, supplier, and configuration chosen, as well as on offtaker/power purchase agreement requirements and on County building standards. Figure 2-11 depicts representative examples of a typical BESS.

The BESS would also consist of an Energy Management System (EMS) and bidirectional inverters, The EMS is responsible for coordinating all subsystems within the BESS and generally controls the net output of solar generation plus BESS at the Point of Interconnection (POI) to prevent overload and charge the BESS exclusively from solar generation. The final location(s) of each component would be determined before the issuance of building permits.

2.7.1.3 Balance of System

The Balance of System (BOS) would include the structure on which the modules are mounted, the downstream components that convert the PV module electrical output from DC to AC, and power transformers and the other infrastructure.

Figure 2-10. Representative Examples of Photovoltaic Panel/Mounting Configuration

Typical Fixed-Tilt Solar Panel Rows

Typical Single-Axis Tracking Solar Panels

Typical Dual-Axis Tracking Solar Panels

Typical Fixed-Tilt Mounting Structure

Typical Dual-Axis Mounting Structure

Figure 2-11. Representative Examples of Battery Energy Storage Systems

2.7.1.4 Inverters

DC energy would be delivered from the panels via cable to inverter stations, generally located near the center of each block. Inverter stations convert the DC energy to AC energy which can be dispatched to the transmission system. Inverter stations are typically comprised of one or more inverter modules with a rated power of up to approximately 5-MW each, a unit transformer, and voltage switch gear. The unit transformer and voltage switch gear are housed in steel enclosures, while the inverter module(s) are housed in cabinets. Depending on the model ultimately selected, the inverter station may lie within an enclosed or canopied metal structure, typically on a skid or concrete mounted pad. Figure 2-12 depicts representative examples of typical inverter stations. The final location(s) of each component would be determined before the issuance of building permits.

Figure 2-12. Representative Examples of Typical Inverter Stations

2.7.1.5 Substations

Output from inverter stations would be transferred via electrical conduits and electrical conductor wires to one or more Sienna Project substations or switchyards (collectively referred to as “substations” herein), and then onward via “gen-tie line(s).” The Sienna Project would have its own dedicated substation equipment located within the Sienna Project area. Dedicated equipment may incorporate several components, including auxiliary power transformers, distribution cabinets, revenue metering systems, a microwave transmission tower, and voltage switch gear. Each substation would occupy an area of up to approximately five (5) acres, secured separately by a chain-link fence. The final location(s) of each component would be determined before the issuance of building permits.

Substations typically include a small control building (roughly 500 square feet) standing approximately 10 feet in height. The building is typically either prefabricated concrete or steel housing with rooms for the voltage switch gear and the metering equipment, a room for the station supply transformer, and a separate control technology room in which the main computer, the intrusion detection system, and the main distribution equipment are housed. Figure 2-13 depicts a representative example of a typical substation design. Components (e.g., control technology room and intrusion detection system) may instead be located at an Operations & Maintenance (O&M) building described below.

To provide any utilities that may be required to power or service substation related facilities, the Sienna Project may necessitate various retail service(s) from local utility providers, e.g., electric service could be obtained from the local electric utility (in this case SCE) by extending distribution circuitry to the Project substation site. Distribution power (also known as/called “station light and power”) related infrastructure would be collocated within gen-tie line and/or collector line corridors. In the event that the Sienna Project’s generation facilities would not be connected to SCE’s electric distribution, the Sienna Project would require “Project-generated” electricity to provide power for the Sienna Project substation related infrastructure as necessary (also known as/called “back feed power”). This would be accomplished by tapping the gen-tie line at the Sienna Project substation. The voltage would be stepped down to distribution level voltage. Infrastructure selection and final location(s) of each applicable component would be determined before the issuance of building permits.

Figure 2-13. Representative Example of Typical Substation Design

2.7.1.6 Gen-Tie Line

As stated in Section 2.6.6, the Sienna Project will interconnect at the SCE Calcite Substation (currently pending environmental clearance and construction) via a proposed overhead and/or underground 230-kV gen-tie line, in addition to other ancillary facilities utilizing private and/or potentially public ROWs (gen-tie corridors) that would typically be 300 feet wide, but may extend to 600 feet wide to facilitate construction and operations. If the use of public ROWs is not ultimately feasible, the Sienna Project would use additional private easements to establish gen-tie and collector line corridors. The gen-tie corridor may ultimately include a mix of both public and private ROWs and may also include private easements from SCE itself. The Sienna Project will require approval by the County of San Bernardino of a Franchise Agreement for any portion of the gen-tie located within the County of San Bernardino's public ROW. Approximately 39 miles of collector lines and gen-tie alternatives will be analyzed in this EIR (Figure 2-2), although not all routes will be developed.

To interconnect at SCE's proposed Calcite Substation, the proposed 230-kV gen-corridor may require relocation of local distribution wet and dry utilities in the event that the line construction and/or other infrastructure conflicts with local distribution utility infrastructure. In this case, the distribution infrastructure would be relocated to ensure that all facilities are constructed in accordance with best utility practices and standards.

The Sienna Project would utilize steel monopoles for the transmission structures. Depending on the specific type of structure and its location within the corridor, transmission structure heights will generally range from approximately 105 feet high to about 114 feet high (Figure 2-14, Figure 2-15, and Figure 2-16).

Figure 2-14. Typical Gen-Tie Structure

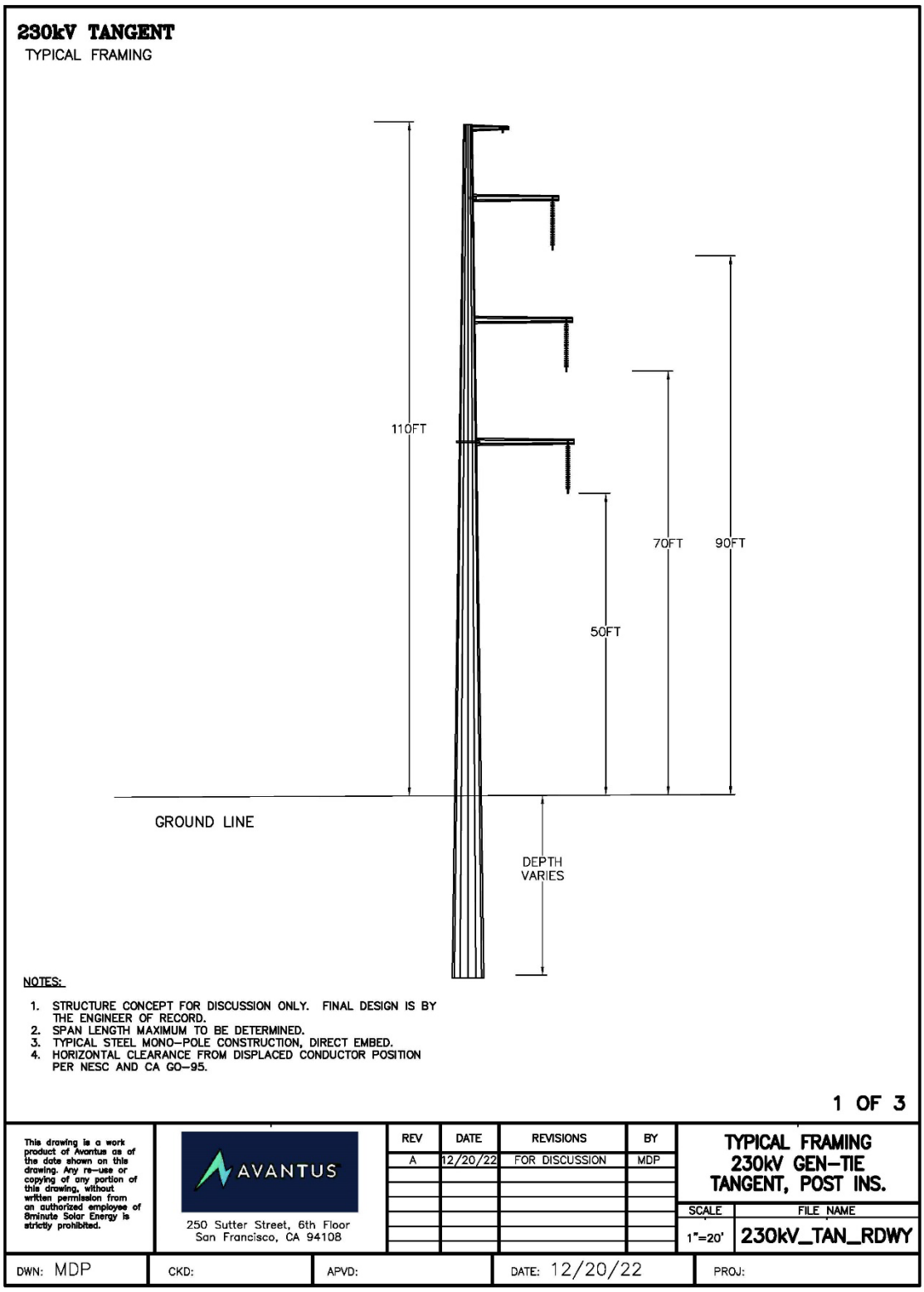


Figure 2-15. Typical Gen-Tie Structure

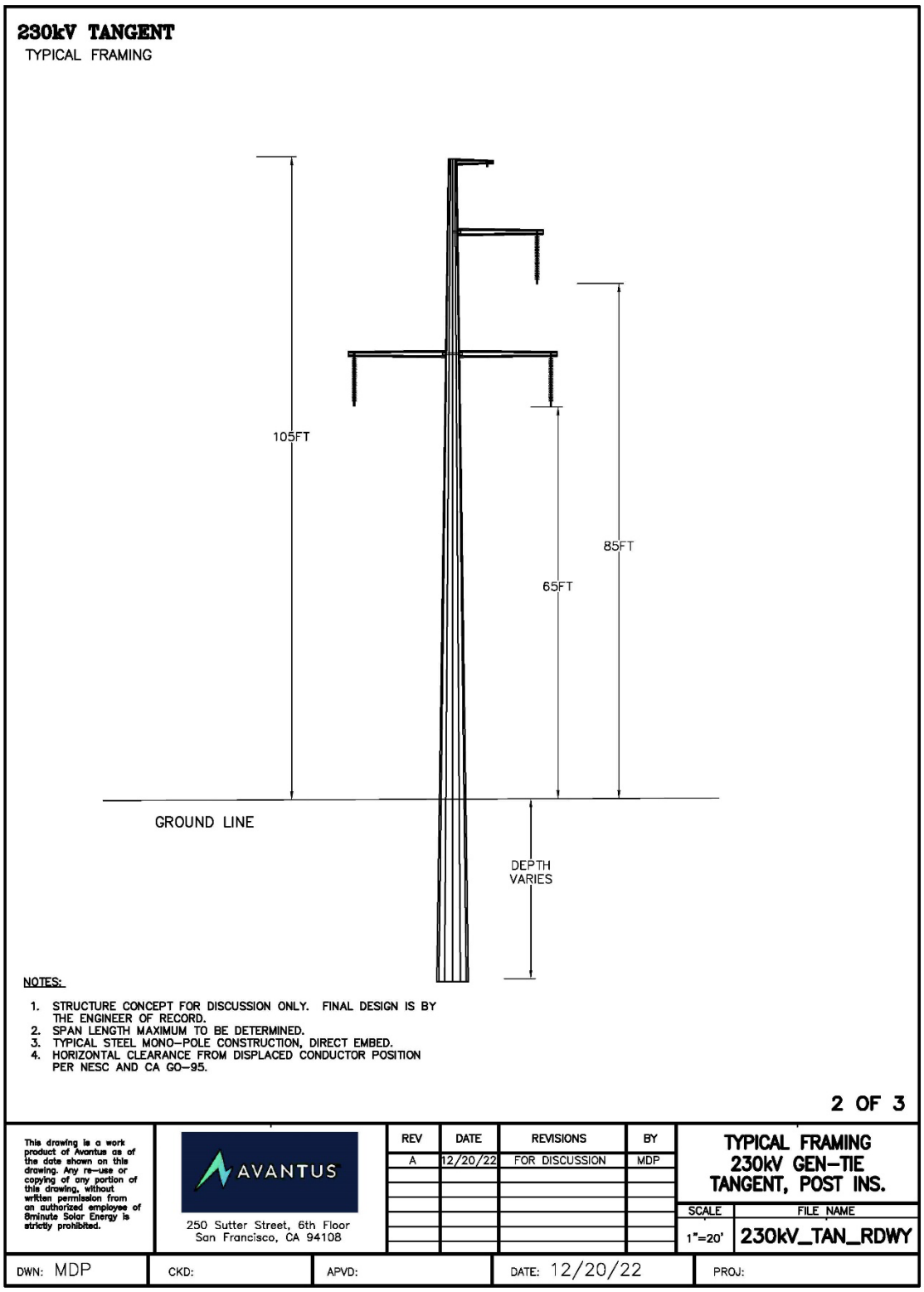
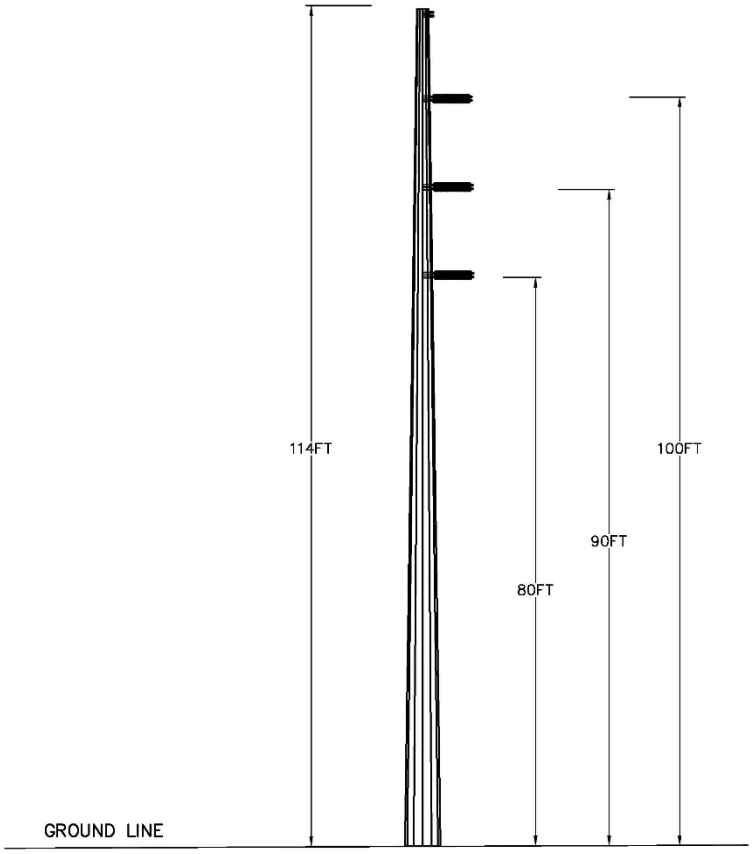


Figure 2-16. Typical Gen-Tie Structure

230kV TANGENT

TYPICAL FRAMING



NOTES:

1. STRUCTURE CONCEPT FOR DISCUSSION ONLY. FINAL DESIGN IS BY THE ENGINEER OF RECORD.
2. SPAN LENGTH MAXIMUM TO BE DETERMINED.
3. TYPICAL STEEL MONO-POLE CONSTRUCTION, DIRECT EMBED.
4. HORIZONTAL CLEARANCE FROM DISPLACED CONDUCTOR POSITION PER NESC AND CA GO-95.

1 OF 1

This drawing is a work product of Avantus as of the date shown on this drawing. Any re-use or copying of any portion of this drawing, without written permission from an authorized employee of 8minute Solar Energy is strictly prohibited.

AVANTUS
250 Sutter Street, 6th Floor
San Francisco, CA 94108

REV	DATE	REVISIONS	BY
A	12/20/22	FOR DISCUSSION	MDP

TYPICAL FRAMING
230kV GEN-TIE
TANGENT, POST INS.

SCALE	FILE NAME
1"=20'	230kV_TAN_RDWY

DWN: MDP | CKD: | APVD: | DATE: 12/20/22 | PROJ:

2.7.1.7 Operations and Maintenance Building

The Sienna Project may include an O&M building, typically 40 feet by 80 feet in size, with designated parking (Figure 2-17). If constructed, the O&M building would likely be steel framed, with metal siding and roof panels.

An O&M building may include the following:

- Office
- Repair building/parts storage
- Control room
- Restroom
- Septic tank and leach field

Any roads, driveways and parking lot entrances would be constructed in accordance with County standards. Parking spaces and walkways would be constructed in conformance with all California Accessibility Regulations. The final location(s) of each applicable component would be determined before the issuance of building permits.

2.7.1.8 Water Usage and Storage

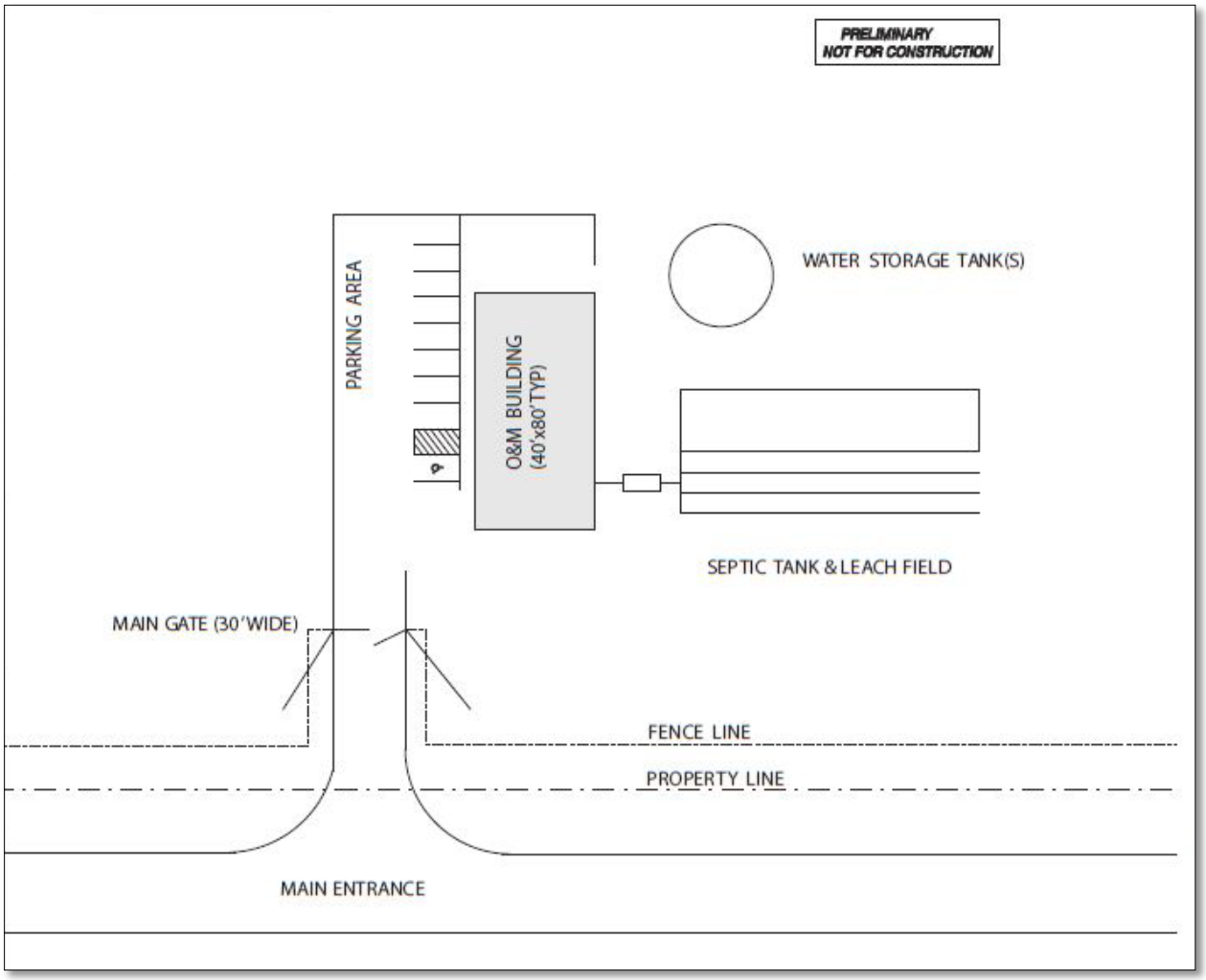
Construction of the Sienna Project would require approximately 225 acre-feet (AF) of water for dust suppression over the assumed 12- to 24-month[1] construction period. During the Sienna Project's 30-year lifetime, water demands would be associated with annual washing of the solar PV panels to maintain efficiency, potential wastewater associated with water treatment by a reverse osmosis deionization system, emergency fire suppression water (stored on-site), and potential operation of the Sienna Project's O&M building. The estimated operational water demand would be up to 50.36 AF for each year the Sienna Project is operational. According to the Water Supply Assessment (WSA) prepared for the Sienna Project (Appendix M of this EIR), the Sienna Project's amortized annual water demand is 61.28 AF per year.

Water is anticipated to be obtained from a participating landowner's water supply well or delivered via truck from off-area source(s) if a well cannot be utilized. A small water treatment system may be installed to provide deionized water for panel washing. *Note:* the issue of water rights would be addressed between the Applicant, the individual property owners, and the Watermaster, prior to initiation of any water use for the Sienna Project.

One or more above-ground water storage tanks with a total capacity of up to approximately 80,000 gallons may be placed near the O&M building for fire suppression. The storage tank(s) would have the appropriate fire department connections to be used for fire suppression purposes. The final location(s) of each applicable component would be determined before the issuance of building permits.

[1] The construction period would occur over 12 to 24 months. The total water demand is assumed to be 225 acre-fee. A longer duration would result in a lower monthly demand. Water demands are analyzed for a 12-month period, as this provides a more conservative analysis than assuming a 24-month duration, which would reduce monthly water demands by approximately half (i.e., if sufficient water would be available for a 12-month period, then sufficient water would also be available for a 24-month period because the longer the phase duration, the lower the monthly water demands will be.

Figure 2-17. Conceptual Operations and Maintenance Building Area Plan



2.7.1.9 Site Security and Fencing

The Sienna Project area would be enclosed within a chain link fence measuring up to eight feet in height from finished grade. An intrusion alarm system comprised of sensor cables integrated into the perimeter fence, intrusion detection cabinets placed approximately every 1,500 feet along the perimeter fence, and an intrusions control unit, located either in the substation control room or at the O&M building, or similar technology, may be installed. Additionally, the Sienna Project may include additional security measures including, but not limited to, warning reflective signage, controlled access points, security camera systems, and security guard vehicle patrols to deter trespassing and/or unauthorized activities that could interfere with operation of the Sienna Project.

Controlled access gates would be maintained at the main entrances to the Sienna Project site. Access would be provided to offsite emergency response teams that respond in the event of an after-hours emergency. Enclosure gates would be manually operated with a code or key provided in an identified key box location.

2.7.1.10 Access

Barstow Road would provide primary access to the Sienna Project site. Vehicular access to the Sienna Project site will be provided via primary and secondary access points along a variety of existing roadways The Sienna Project's access roads would have an aggregate base and be compacted to 85 percent.

2.7.1.11 Lighting

Lighting would be directed away from public rights-of-way. Lighting used on-area would be minimal. Site lighting may include motion sensor lights for security purposes. Lighting used on-area would be of the lowest intensity foot candle level, in compliance with any applicable regulations, measured at the property line after dark.

2.7.2 Calcite Substation

As described in Section 2.8.1.6, the proposed Sienna Project will interconnect at the proposed SCE Calcite Substation (currently pending environmental clearance and construction) via a proposed overhead and/or underground 230-kV gen-tie line in addition to other ancillary facilities utilizing private and potentially public ROWs. The Calcite Substation would be designed, constructed, owned, operated, and maintained by SCE and subject to CPUC regulations. It is anticipated that the substation would require a discretionary "Permit to Construct" from the CPUC. The proposed Calcite Substation would comprise the following infrastructure: (1) Calcite Substation, (2) transmission line(s), (3) generation tie-line connection (4) distribution line for Calcite Substation light and power, and; (5) telecommunication facilities (Figure 2-18).

2.7.2.1 Substation

The substation component includes a 220 kV switchyard on approximately 7 acres along with approximately 4 additional acres for drainage, grading, and an access road.

2.7.2.2 Transmission Lines

The Calcite Substation Project involves looping-in the Lugo-Pisgah No. 1 220 kV transmission line into the SCE Calcite Substation adding a total of approximately 5,000 feet of new transmission line (two lines of approximately 2,500 feet located adjacent to one another) creating the Calcite-Lugo and Calcite-Pisgah 220 kV transmission lines.

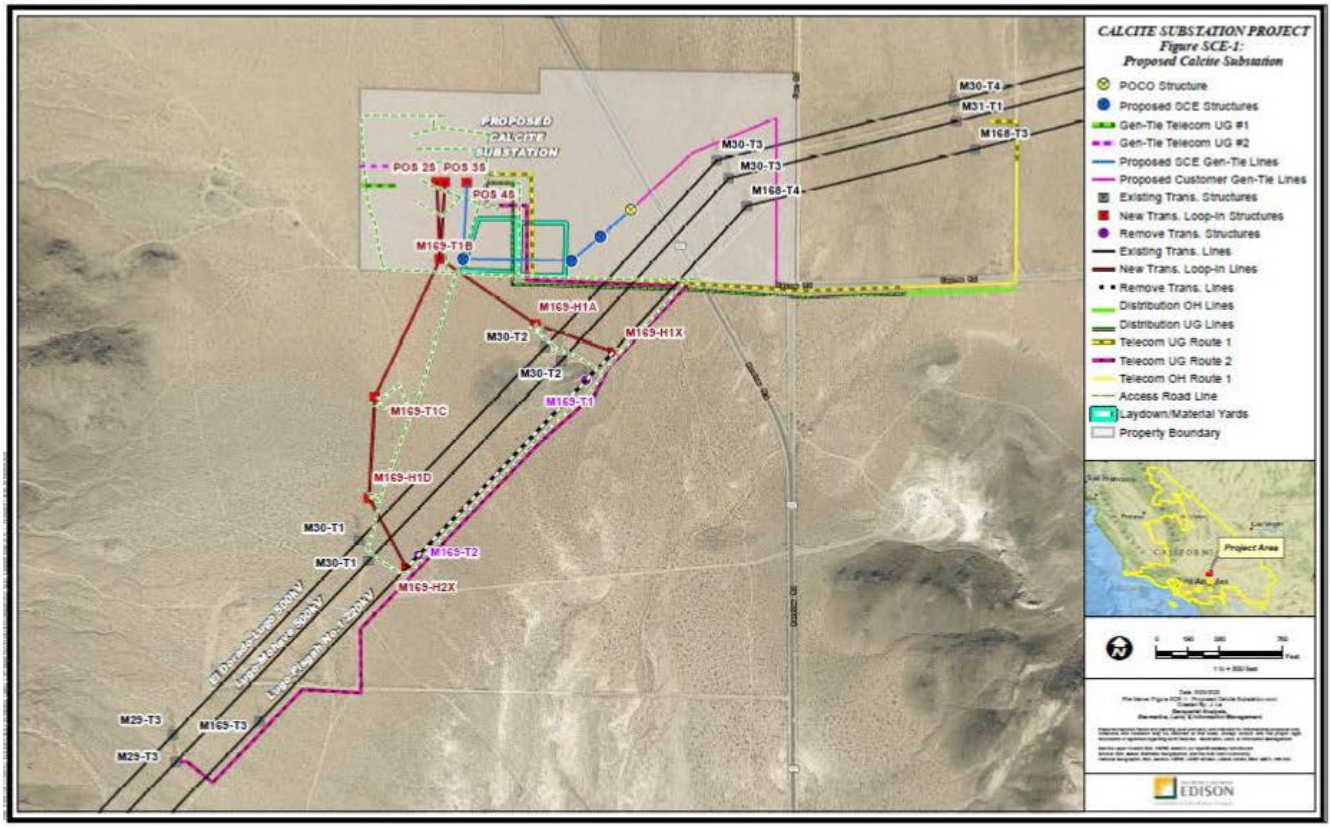
2.7.2.3 Generation Tie-Line Connection

The Calcite Substation Project involves connecting the Sienna gen-tie line into the SCE-owed Calcite Substation. SCE will construct up to three structures and four spans, starting at the generator's closest structure to the Calcite Substation property to connect to the new position within the switchyard.

2.7.2.4 Distribution Line for Calcite Substation Light and Power

The Calcite Substation Project involves the construction of approximately 700 feet of 12 kV overhead distribution line and approximately 3,100 feet of underground distribution line (connecting the existing distribution system along Haynes Road to SCE Calcite Substation) to provide temporary power for construction and permanent substation light and power.

Figure 2-18. Calcite Substation



2.7.2.5 Telecommunication Facilities

The Calcite Substation Project involves the installation of fiber optic communication cables, equipment, and associated structures for diverse path routing of communications.

2.7.2.6 Water Usage

According to the *Stagecoach Solar Project Draft EIR*, water trucks may be used to import water to minimize the quantity of airborne dust created by construction activities. Approximately 30.7 acre-feet would be required during construction (California State Lands Commission 2021).

2.8 Construction

2.8.1 Sienna Project

Construction of the Sienna Project would require approximately 12 months of continuous activity involving several overlapping phases. Due to weather and other constraints, the 12 months of construction activity may require up to 24 months to complete. The construction period for the Sienna Project is anticipated to utilize an estimated (up to) 500 workers per day (during peak construction periods).

Construction generally includes the following activities:

- Site preparation
- Grading and earthwork
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation

Heavy construction is expected to occur between 6:00 AM and 5:00 PM, Monday through Saturday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Some activities may continue 24 hours per day, seven days per week. Low level noise activities may potentially occur between the hours of 10:00 PM and 7:00 AM. Nighttime activities could potentially include, but are not limited to, refueling equipment, concrete pours, staging material for the following day's construction activities, quality assurance/control, and commissioning.

Materials and supplies would be delivered to the Sienna Project area by truck. Truck deliveries would normally and primarily occur during daylight hours. However, there would be occasional offloading and/or transporting to the Sienna Project area on weekends and during evening hours.

Earthmoving activities associated with the solar facility are expected to be limited to the construction of the access roads, O&M building, substation, BESS, and any required storm water protection or storage (detention) facilities. The Sienna Project is not anticipated to involve the paving, removal, or significant alteration of existing agricultural soil(s). Rather the solar panels would be installed atop the relatively flat lots, leaving the farming soil relatively undisturbed and available for crop cultivation at the end of the Sienna Project's life. Final grading may include revegetation with low lying grass or applying earth-binding materials to disturbed areas to control dust and increase albedo of the ground.

Site preparation will be planned and designed to minimize the amount of earth movement required for the Sienna Project to the extent feasible. The hydrology design will be given first priority in order to protect the Sienna Project's facilities and adjacent facilities, including any County facilities from large storm events. It is the intent of the Sienna Project to support the panels on driven piles. Additional compaction of the soil in order to support the building and traffic loads as well as the PV module supports may be required and is dependent on final Project engineering design.

The existing on-site drainage patterns will be maintained to the greatest extent feasible.

2.8.2 Calcite Substation

According to the *Stagecoach Solar Project Draft EIR*, construction for the proposed Calcite Substation is estimated to utilize (up to) 30 workers per day (during peak construction periods).[2]

Construction of the proposed Calcite Substation would generally include the following activities:

- **Site preparation, grading and fencing.** The proposed SCE Calcite Substation property would be prepared by clearing existing vegetation and installing a temporary chain-link fence to surround the construction site. The property would be graded in accordance with County-approved grading plans. Grading activities would disturb an area approximately 35 feet wide around the substation (approximately 2 acres) resulting in a total permanent disturbance area of approximately 11 acres. Final site grading and drainage would be subject to the conditions of the grading permit obtained from the County of San Bernardino.
- **Access roads.** The SCE Calcite Substation access road would be 24 feet wide and composed of asphalt concrete. This road would connect to SR-247 (Barstow Road) and would require the improvement of approximately 1,100 feet of the existing Haynes Road and the establishment of approximately 800 feet of new road.
- **Below grade construction.** After the SCE Calcite Substation property is graded, below grade facilities would be installed. Below grade facilities include a ground grid, underground conduit, trenches, and all required foundations. The design of the ground grid would be based on soil resistivity measurements collected during a geotechnical investigation that would be conducted prior to construction.
- **Equipment Installation.** Above grade installation of substation facilities (i.e., buses, circuit breakers, steel structures, and the MEER) would commence after the below grade structures are in place.
- **Site restoration.** Any damage to existing roads resulting from construction would be repaired once construction is completed in accordance with local agency requirements. Following completion of construction activities, SCE would also restore all areas that were temporarily disturbed by construction of the SCE Calcite Substation to as close to preconstruction conditions as possible or where applicable to the conditions agreed upon between the landowner and SCE. In addition, all construction materials and debris would be removed from the area and recycled or properly disposed of off-site. SCE would conduct a final inspection to ensure that cleanup activities were successfully completed. Any land that may be disturbed at the staging yard would be restored to preconstruction conditions if there is no longer a need for the staging yard.

[2] California State Lands Commission. 2021. *Stagecoach Solar Project Draft EIR* (SCH No. 2020100234), pp. 2-38 through 2-40.

2.9 Operations and Maintenance

2.9.1 Sienna Project

Once constructed, maintenance of the Sienna solar facility would generally be limited to the following:

- Cleaning of PV panels
- Monitoring electricity generation
- Providing site security
- Facility maintenance - replacing or repairing inverters, wiring, electrical components, and PV modules

It is expected that the Sienna Project would require an operational staff of up to 15 full-time employees. The solar facility would operate seven days a week, 24 hours a day. Maintenance activities may occur seven days a week, 24 hours a day to ensure PV panel output when solar energy is available.

2.9.2 Calcite Substation

According to the *Stagecoach Solar Project Draft EIR*, the proposed SCE Calcite Substation would be unstaffed, and electrical equipment within the substation would be remotely monitored and controlled by an automated system from SCE's Lugo Substation Switching Center (located at the Lugo Substation in Hesperia, about 30 miles southwest of the proposed SCE Calcite Substation). The SCE personnel would visit a substation on an as-needed basis for electrical switching and routine maintenance, including equipment testing, monitoring, and repair (California State Lands Commission 2021).

2.10 Features and Best Management Practices

The following sections describe standard Sienna Project features and best management practices that would be applied during construction and long-term operation of the Sienna Project and, where applicable, the Calcite Substation, to maintain safety and minimize or avoid environmental impact.

2.10.1 Waste and Hazardous Materials Management

The Project would have minimal levels of materials within the Project area that have been defined as hazardous under 40 CFR, Part 261. The following materials are expected to be used during the construction, operation, and long-term maintenance of the Project:

- Insulating oil – used for electrical equipment
- Lubricating oil – used for maintenance vehicles
- Various solvents/detergents – equipment cleaning
- Gasoline – used for maintenance vehicles

Hazardous materials and wastes would be managed, used, handled, stored, and transported in accordance with applicable local and State regulations. All hazardous wastes would be maintained at quantities below the 55-gallon drum threshold requiring a Hazardous Material Management Program (HMMP). Though not expected, should any on-area storage of hazardous materials exceed one 55-gallon drum, an HMMP would be prepared and implemented.

According to the *SCE Calcite Substation Detailed Project Description*, construction and operation of the Calcite Substation would require the limited use of hazardous materials such as fuels, lubricants, and cleaning solvents. SCE would comply with all applicable laws relating to hazardous materials use, storage, and disposal. A Stormwater Pollution Prevention Plan (SWPPP) would also be prepared for the Calcite Substation Project.[3]

2.10.2 Spill Prevention and Containment

It is anticipated that fewer than 55 gallons of hazardous materials would be stored within the Project area. Spill prevention and containment for construction and operation of the Project would adhere to the Environmental Protection Agency's guidance on Spill Prevention Control and Countermeasures (SPCC).

2.10.3 Wastewater/Septic System

A standard septic tank and leach field may be used at the O&M building to dispose sanitary wastewater, designed to meet operation and maintenance guidelines required by San Bernardino County. Alternatively, portable toilets may be employed within the O&M area.

2.10.4 Weed Management

Invasive/weedy species would be controlled and any non-invasive vegetation that re-establishes within the Sienna Project area would be controlled within the solar facility. Vegetation growing within the boundaries of the Sienna Project area would be periodically removed manually and/or treated with herbicides. The Applicant would anticipate being required to prepare a Pest Management Plan for submission to the San Bernardino County.

2.10.5 Dust Control

Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the San Bernardino County Air Pollution Control District or California Air Resources Board. During grading, actively disturbed on-site areas and unpaved roads would be watered at least three times a day as necessary to reduce fugitive dust emissions. In addition, speeds would be limited to 15-mile per hour (mph) speed during construction.

2.10.6 Health and Safety

Safety precautions and emergency systems would be implemented as part of the design and construction of the Project to ensure safe and reliable operation. Administrative controls would include classroom and hands-on training in operating and maintenance procedures, general safety items, and a planned maintenance program. These would work with the system design and monitoring features to enhance safety and reliability.

The Project would have an Emergency Response Plan (ERP). The ERP would address potential emergencies including chemical releases, fires, and injuries. All employees would be provided with communication devices, cell phones, or walkie-talkies, to provide aid in the event of an emergency.

[3] Southern California Edison (SCE). 2021. *Calcite Substation Detailed Project Description*, p. E-5.

2.10.7 Fire Management

The Sienna Project site is located within the jurisdiction of San Bernardino County Fire Department. On-area fire protection would be provided via portable and fixed fire suppression systems throughout each of the Sienna Project phases. Portable fire extinguishers would be provided at various locations throughout the solar facility, while fixed fire suppressions systems would be available in the form of dedicated storage tank(s). Water from the on-area water storage tank would be intended for the fire protection of the O&M building. The O&M building would have access to a wet-fire connection to provide sufficient fire protection. Both the access and service roads (along the perimeter of the Sienna Project facilities) would have turnaround areas to allow clearance for fire trucks per fire department standards (typically 70 feet by 70 feet, and 20-foot-wide access road).

The PV modules and ancillary equipment are constructed of fire-resistant material. Additionally, routine weed abatement and landscape maintenance would occur as necessary. As such, the Sienna Project represents a negligible increase in fire potential. However, a Fire Management Plan would be prepared in accordance with Fire Department requirements for access and will not impact the ability to provide emergency access to the Sienna Project.

The Calcite Substation site is located within the jurisdiction of San Bernardino County Fire Department and not located within a very high or high fire hazard severity zone. According to the *Stagecoach Solar Project Draft EIR*, construction would require the use of heavy equipment that may ignite nearby dry vegetation. However, the site would be cleared of existing vegetation prior to construction to minimize the potential for ignition. The potential for wildland fires to ignite on site during construction would be further reduced by compliance with measures to safeguard human life, prevent personnel injury, preserve property, and minimize downtime due to fire or explosion. Measures would address fire-safe construction, reduction of ignition sources, control of fuel sources, availability of emergency water, and proper maintenance of firefighting systems (California State Lands Commission 2021).

2.11 Decommissioning and Reclamation

The planned operational life of the solar facility is approximately 30 years. However, if the solar facility continues to be economically viable, it could be operated for a longer period subject to County approval and applicable CEQA review. A Decommissioning Plan would be implemented at the end of the Sienna Project's life, and would adhere to the County's decommissioning/reclamation requirements, which typically include the following topics:

- Description of the proposed decommissioning measures for the facility and for all appurtenances constructed as part of the facility.
- Description of the activities necessary to restore the Project area to its previous condition. Such activities include removing and recycling solar equipment, storage equipment, medium voltage collector line, substation, and gen-tie line(s). The soils would then be de-compacted and restored to agricultural purposes.
- Presentation of the costs associated with the proposed decommissioning/reclamation measures would occur, including a discussion of conformance with applicable regulations and with local and regional plans.

Similarly, the proposed Calcite Substation would be decommissioned in compliance with applicable State, SCE, and County standards.

2.12 Project Approvals

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.

2.12.1 Sienna Project

The County is the Lead Agency for the Sienna Project, as it is the agency with primary authority over the Sienna 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 2-2 identifies a list of approvals that could be required from the lead agency, trustee agencies and responsible agencies.

2.12.2 Calcite Substation

The Calcite Substation Project is not subject to any discretionary County approvals and, therefore, is not a part of the CUP application for the proposed Sienna Project. The CPUC has sole authority for siting approvals of the Calcite Substation. Table 2-2 identifies a list of approvals that could be required from trustee agencies and responsible agencies.

Table 2-2. Matrix of Potential Approvals Required

Permit/Action Required	Approving Agency	Lead/Trustee/Responsible Agency Designation
Sienna Project		
Environmental Impact Report Certification	County of San Bernardino	Lead Agency
Conditional Use Permit	County of San Bernardino	Lead Agency
Variance for height of proposed gen-tie and collector line poles	County of San Bernardino	Lead Agency
Grading, Building, and Encroachment Permit(s)	County of San Bernardino	Lead Agency
Franchise Agreement	County of San Bernardino	Lead Agency
Air Quality Construction Management Plan	Mojave Desert Air Quality Management District	Responsible Agency
Waste Discharge Permit, if required	Colorado River Regional Water Quality Control Board (RWQCB)	Responsible Agency
General Construction Stormwater Permit	Colorado River RWQCB	Responsible Agency
Incidental Take Permit, if required	California Department of Fish and Wildlife	Responsible Agency

Permit/Action Required	Approving Agency	Lead/Trustee/Responsible Agency Designation
Calcite Substation		
Permit to Construct	CPUC	Responsible Agency
Air Quality Construction Management Plan	Mojave Desert Air Quality Management District	Responsible Agency
Waste Discharge Permit, if required	Colorado River Regional Water Quality Control Board (RWQCB)	Responsible Agency
General Construction Stormwater Permit	Colorado River RWQCB	Responsible Agency
Incidental Take Permit, if required	California Department of Fish and Wildlife	Responsible Agency

Notes: CPUC=California Public Utilities Commission; RWQCB=Regional Water Quality Control Board

3 Environmental Analysis, Impacts, and Mitigation

3.1 Introduction to Environmental Analysis

This section provides an overview of the environmental analysis and presents the format for the environmental analysis in each topical section.

3.1.1 Organization of Issue Areas

Chapter 3 provides an analysis of impacts for those environmental topics that the County determined could result in "significant impacts," based on preparation of an Initial Study and responses received during the scoping process, including the NOP review period and public scoping meeting. Sections 3.2 through 3.15 discuss the environmental impacts that may result with approval and implementation of the Project, and where impacts are identified, recommends mitigation measures that, when implemented, would reduce significant impacts to a level less than significant. Each environmental issue area in Chapter 3 contains a description of the following:

- The environmental setting as it relates to the specific issue
- The regulatory framework governing that issue
- The threshold of significance (from Appendix G of the CEQA Guidelines)
- An evaluation of the project-specific impacts and identification of mitigation measures
- A determination of the level of significance after mitigation measures are implemented

3.1.2 Format of the Impact Analysis

This analysis presents the potential impacts that could occur under the Project along with any supporting mitigation requirements. Each section identifies the resulting level of significance of the impact using the terminology described below following the application of the proposed mitigation. The section includes an explanation of how the mitigation measure(s) reduces the impact in relation to the applied threshold of significance. If the impact remains significant (i.e., at or above the threshold of significance), additional discussion is provided to disclose the implications of the residual impact and indicate why no mitigation is available or why the applied mitigation does not reduce the impact to a less than significant level.

Changes that would result from the Project were evaluated relative to existing environmental conditions within the Project site as defined in Chapter 2. Existing environmental conditions are based on the time at which the NOP was published August 23, 2022. In evaluating the significance of these changes, this EIR applies thresholds of significance that have been developed using: (1) criteria discussed in the CEQA Guidelines; (2) criteria based on factual or scientific information, and; (3) criteria based on regulatory standards of local, state, and/or federal agencies. Mechanisms that could cause impacts are discussed for each issue area.

This EIR uses the following terminology to denote the significance of environmental impacts of the Project:

- *No impact* indicates that the construction, operation, and maintenance of the Project would not have any direct or indirect effects on the environment. It means no change from existing conditions. This impact level does not need mitigation.
- A *less than significant impact* is one that would not result in a substantial or potentially substantial adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.
- A *significant impact* is defined by CEQA Section 21068 as one that would cause "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project." Levels of significance can vary by project, based on the change in the existing physical condition. Under CEQA, mitigation measures or alternatives to the Project must be provided, where feasible, to reduce the magnitude of significant impacts.
- An *unmitigable significant impact* is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be reduced to a less than significant level even with any feasible mitigation. Under CEQA, a project with significant and unmitigable impacts could proceed, but the lead agency would be required to prepare a "statement of overriding considerations" in accordance with State CEQA Guidelines California Code of Regulations (CCR) Section 15093, explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.

3.2 Aesthetics

This section evaluates potential aesthetics and visual resource impacts that may result from construction and operation of the Project. This section identifies: The existing visual and aesthetic resources within the Project area and surrounding area; an identification of applicable plans, policies, and regulations; an evaluation the Project's potential aesthetic and visual resource impacts, and; recommended mitigation measures, if any, to reduce or avoid significant impacts that may result from implementation of the Project. The information provided in this section is summarized from the *Sienna Solar and Storage Project - Visual Resources Assessment* (Appendix B of this EIR) prepared by Rincon Consultants, Inc. and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.2.1 Existing Conditions

Regional Setting

San Bernardino County is the largest County in the state of California spanning approximately 20,106 square miles. San Bernardino County contains three distinct geographic regions: The Valley Region, Mountain Region, and the Desert Region. The Sienna Project area and the proposed Calcite Substation are in the Desert Region, which is visually characterized by its arid landscape, consisting of desert plains, sparsely vegetated mountain ranges, and broad valleys with expansive alluvial fans and scattered dry lakes. Both Project areas are primarily located on the floor of the Lucerne Dry Lake, and along its eastern and northern margins. Topography is mostly flat to gently sloped along the dry lake margins.

Figure 3.2-1 depicts the regional landscape setting in the Sienna Project area. The Granite Mountains are west of the Sienna Project area, and Peterman Hill is within the overall Sienna Project footprint (proposed gen-tie alternative corridors), east of Barstow Road. The Ord Mountains, a weathered rugged volcanic range, trending east-west with a peak elevation of 6,309 feet above mean sea level, are approximately 10 miles to the northeast. The mountain ranges surrounding the valley rise approximately 2,300 to 3,400 feet above the valley floor, and the silhouette of ridgelines dominates the viewshed.

The dry lakebed is heavily used for recreational activities, including off highway vehicle (OHV) travel (including racing) and assorted day use and camping activities. The Rocketry Organization of California (ROC) uses the dry lake as one of its designated launch sites, with scheduled launches occurring monthly throughout the year. Additionally, areas outside the dry lake within the Sienna Project area are also subject to various ongoing disturbances related to road maintenance, utility activities (electrical transmission towers and lines; underground gas pipeline), recreation, OHV travel, and illegal dumping.

Project Setting

SIENNA PROJECT

The Sienna Project is located on approximately 1,854-acres in the southwestern portion of the Mojave Desert and includes the Lucerne Dry Lake, in unincorporated San Bernardino County, California. The Sienna Project is predominately located east of State Route 247 (Barstow Road/SR 247), north of the unincorporated community of Lucerne Valley, with portions of the gen-tie alternative corridors that

include possible connections along Haynes Road, Huff Road, and Northside Road to the east of Barstow Road. Elevation of the Sienna Project area ranges between 2,850 and 2,910 feet above mean sea level.

The natural landscape of the Sienna Project area consists of a generally flat surface, sloping up to craggy mountains in the distance in all directions, with intervening small rocky hills. The landscape is characterized by bare tan soil or low golden grasses punctuated by low, mounded olive or dark green shrubs.

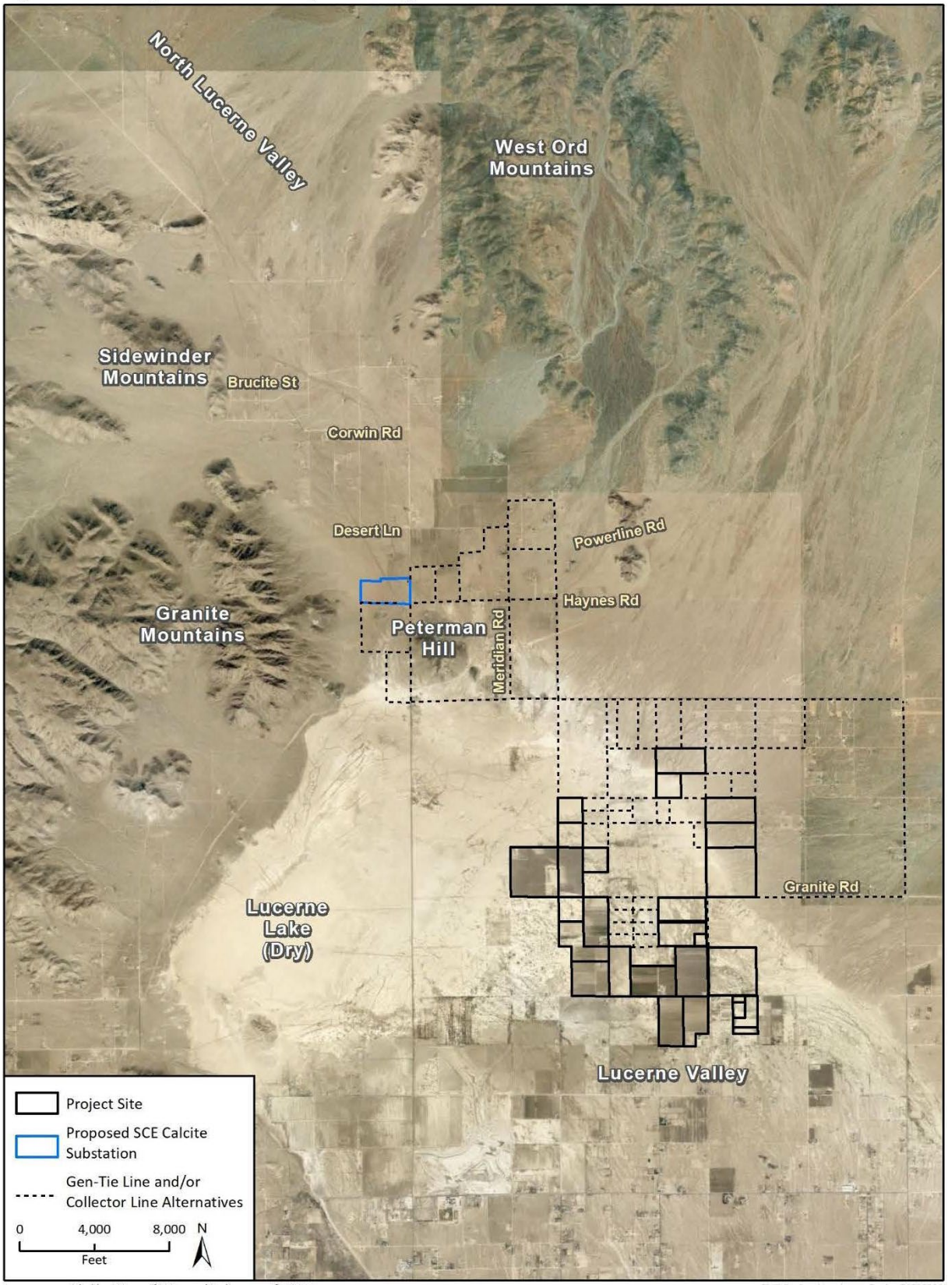
The built environment of the Sienna Project vicinity is dominated by a lattice of paved and dirt roads extending from State Route (SR) 247, which runs generally north-south to the west of the Sienna Project. Several large regional power lines supported by tall steel lattice towers run east-west in the Sienna Project vicinity. Low wood post and wire fences are present throughout the Sienna Project vicinity, as are small, single-story residences dotting the landscape, some of which have substantial stands of trees planted, serving as visual screening. Also, visible are the wood poles of local electrical distribution lines providing service to the residences.

Six locations were identified and selected as representative character points in the landscape that offer motorists, including local residents traveling on area roadways, views to the Project site. These character points (A-F) are shown in Figure 3.2-2. Photographs were taken at these locations and were used to support the discussion on existing visual setting and the analysis of potential visual impacts associated with the Sienna Project (Figure 3.2-3 through Figure 3.2-5).

CALCITE SUBSTATION

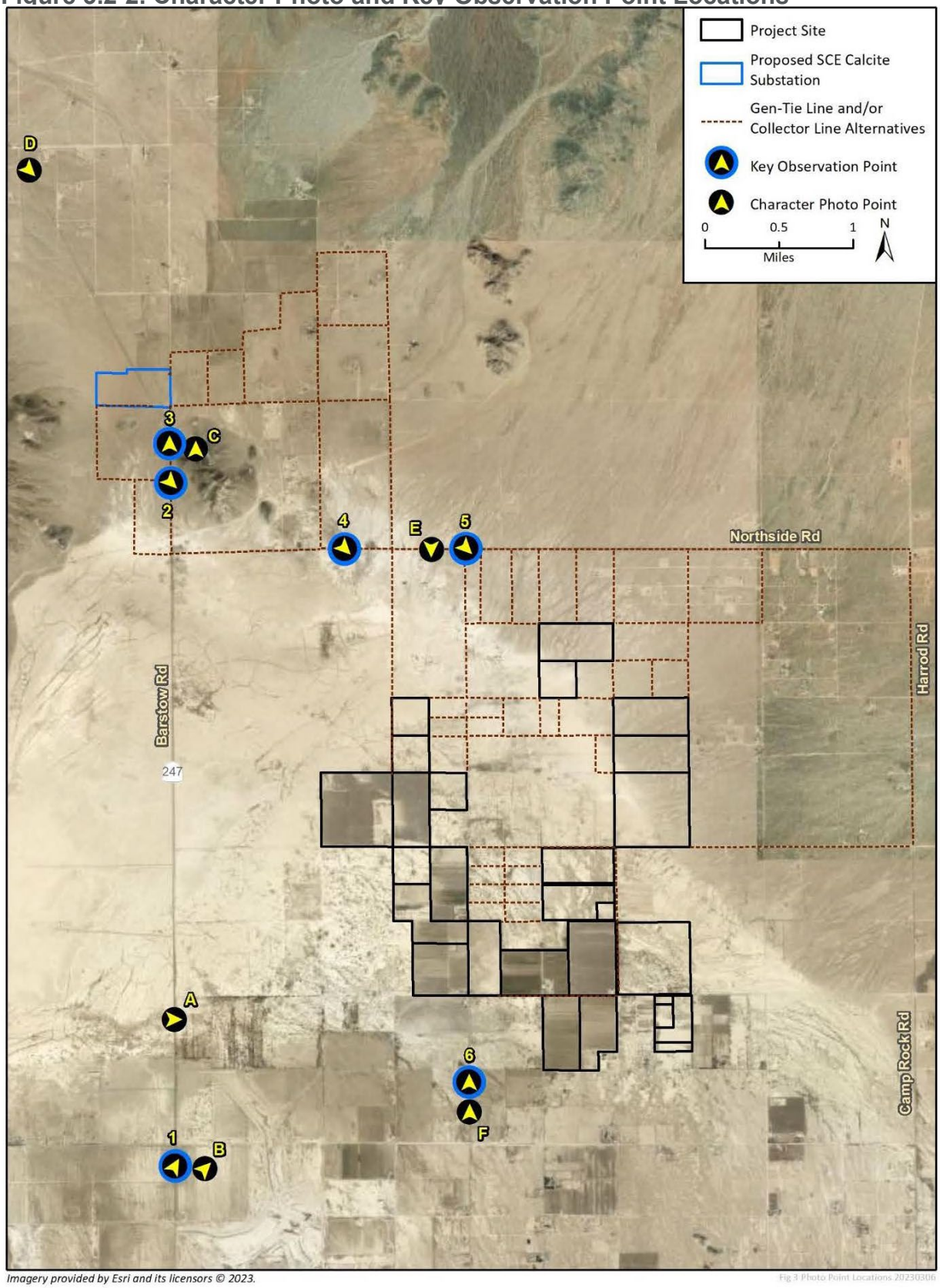
According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation site is located on a 75-acre parcel of land that extends west and east of SR-247, north of Haynes Road and east of the Granite Mountains. The overall landscape in the Calcite Substation area is predominantly undeveloped with a background of natural landscapes of the high desert valley, bordered by the Granite Mountains to the west and San Bernardino Mountains to the south (California State Lands Commission 2021).

Figure 3.2-1. Regional Landscape Setting



Source: Appendix B of this EIR

Figure 3.2-2. Character Photo and Key Observation Point Locations



Source: Appendix B of this EIR

Figure 3.2-3. Visual Character of Project Area (A and B)

Photograph A. View looking east from SR 247 toward the southernmost extent of the Project area, approximately 1.6 miles distant. Photograph A is representative of views for motorists on SR 247. The Project area is generally flat, sloping up to the craggy mountain in the distance. The landscape is characterized by bare tan soil punctuated by low, mounded olive-green shrubs. A large regional power line supported by tall steel lattice towers that run east-west is visible on the right-hand side of the photograph.

Photograph B. View looking northeast from SR 247 toward the center of the Project area. Photograph B is representative of views for motorists traveling north on SR 247. A deteriorated low wood post and wire fence is located adjacent to SR 247 and is characteristic of fences throughout the Project vicinity. Low golden grasses dominate the view, with sparce dark green shrubs in the middleground and mountains in the distance.

Source: Appendix B of this EIR

Figure 3.2-4. Visual Character of Project Area (C and D)

Photograph C. View to the north from SR 247 at Fern Road toward the northern extent of the Project area. Photograph C is representative of views for motorists traveling north on SR 247. The near and middleground land surface is generally level, sloping up to the mountain range in the background, approximately 8 miles from the viewing location. Tan soils and low shrubby olive-green vegetation characterize the landscape. A major transmission line corridor with different types of lattice steel structures extends west to east across the view.

Photograph D. View to the southeast from SR 247 toward the northern portion of the Project area. Photograph D is representative of views for motorists traveling south on SR 247. The landscape is dotted with sparse low vegetation and remote single-story rural residences. The wood poles of local electrical distribution lines paralleling dirt roads are visible in the middleground view. Small rocky hills punctuate the center of the view, while the San Bernardino Mountains are distantly visible in the right-hand side of the view.

Source: Appendix B of this EIR

Figure 3.2-5. Visual Character of Project Area (E and F)

Photograph E. View to the south from Northside Road toward the Project area. Photograph E is representative of project views for area residents. Exposed tan soils and sparse, low, dusty-green shrubs dominate the landscape. Small, single-story residences dot the landscape, some of which have substantial stands of trees planted, serving as visual screening. Also visible are the wood poles of local electrical distribution lines providing service to the residences. The visible landscape is generally flat, before sloping up into the San Bernardino Mountains, 12 to 15 miles distant.

Photograph F. View to the northeast from Locust Avenue, at the southernmost extent of the Project area. Except for the rocky mountains in the distance, the landscape is generally flat, with exposed tan soils and golden grasses, except where taller green vegetation in the middleground identifies residential areas. The lattice steel towers of a high-voltage powerline are visible in the middleground, as are the wood poles associated with local electrical distribution lines.

Source: Appendix B of this EIR

Scenic Vista

SIENNA PROJECT

There are no Department of Transportation (DOT) vista points on state highways within the Sienna Project vicinity. The nearest vista point identified by Caltrans is the Bear Valley Dam Vista Point in the San Bernardino Mountains, approximately 20 miles south of the Sienna Project area. The Sienna Project area is not visible from this vista point (Appendix B of this EIR).

CALCITE SUBSTATION

According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), there are no San Bernardino County-designated or community recognized scenic vistas in the Calcite Substation area (California State Lands Commission 2021).

Scenic Highways

SIENNA PROJECT

SR 247, which runs approximately one mile west and 2.5-miles south of the Sienna Project site, is eligible for California State Scenic Highway Designation (Caltrans 2018). The County of San Bernardino has also designated SR 247 in the Sienna Project vicinity as a Scenic Route (County of San Bernardino 2020a).

CALCITE SUBSTATION

According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), although SR 247 is a State-Eligible and County-Designated Scenic Highway, there are no State-Designated Scenic Highways in the Calcite Substation area (California State Lands Commission 2021). The County of San Bernardino has also designated SR 247 in the Project vicinity as a Scenic Route (County of San Bernardino 2020a).

Light, Glare, and Glint

Glare is considered a continuous source of brightness, relative to diffused light, whereas glint is a direct redirection of the sun beam in the surface of a PV solar module. Glint is highly directional, since its origin is purely reflective, whereas glare is the reflection of diffuse irradiance. It is not a direct reflection of the sun.

SIENNA PROJECT

The Sienna Project site and surrounding area are generally lacking in significant nighttime lighting sources. Existing light sources in the area are minimal and consist primarily of lighting associated with motorways. Furthermore, as the Sienna Project is located in an area consisting of mostly vacant desert land and scattered residences in the vicinity. Limited light is generated within the Sienna Project area. The majority of the light and glare in the Sienna Project area is a result of motor vehicles traveling on surrounding roadways.

Local roadways generate glare both during the night hours when cars travel with lights on, and during daytime hours because of the sun’s reflection from cars and pavement surfaces.

CALCITE SUBSTATION

The Calcite Substation site is located in an undeveloped area with limited light sources. The majority of light and glare in the Calcite Substation area is from motor vehicles travelling along SR 247 and Haynes Road.

3.2.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

Federal

National Scenic Byways Program

The National Scenic Byways Program is 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. 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

California 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. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the scenic corridor.

Local

San Bernardino Countywide Plan/Policy Plan

The County adopted the *San Bernardino Countywide Plan/Policy Plan* (Policy Plan) in October 2020. The Policy Plan contains policies for the protection and conservation of scenic resources and open spaces within the County. These policies also provide guidance for the design of new development.

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-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-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 of the San Bernardino County Development Code 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

To protect the character and value of communities and neighborhoods, and the natural and scenic values of the landscape within the County, from increased impacts of new commercial solar energy generation facilities, Section 84.29.035 states the County will focus new commercial solar energy development in areas that are both: (1) less desirable for the development of communities, neighborhoods and rural residential use and; (2) less environmentally sensitive.

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

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

3.2.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to aesthetic and visual resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to aesthetics are considered significant if the Project would:

- have a substantial adverse effect on a scenic vista; or
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; or
- in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Methodology

The initial step in the evaluation process was the review of planning documents applicable to the Sienna Project area to gain insight into the type of land uses intended for the general area, and the

guidelines given for the protection or preservation of visual resources. Consideration was then given to the existing visual setting within the Sienna Project viewshed, which is defined as the geographical area in which the Sienna Project can be seen. A desktop analysis was conducted to identify the areas from which the Sienna Project will have the potential to be visible. Site reconnaissance was conducted to view the Sienna Project area and surrounding vicinity, identify potential Key Observation Points (KOPs), and take representative photographs of existing visual conditions. Photographs from the site reconnaissance were selected to represent the "before" conditions from each of the potential KOPs. Within the viewshed area, seven KOPs were selected to be used as the basis for analysis of the proposed Project's visual effects. An effort was made to identify sensitive receptors and viewing areas that would be the most sensitive to the Sienna Project's potential visual impacts. Three of the selected KOPs are locations along SR 247, a County-designated scenic highway. These KOPs present representative views for both local residents and local or transient recreationists. The other three KOPs were selected to be representative views for local residents.

To provide a basis for evaluating the visual effect of the Sienna Project on these views, visual simulations were produced to illustrate the "after" visual conditions from each of the KOPs. The proposed facilities were modeled based on design information provided by the Project applicant and included both the solar array as well as gen-tie lines.

One proposed gen-tie route was selected for the simulations to be representative of the different gen-tie route alternatives. This route extends from the solar array at Watking Road, north along Huff Road to Haynes Road, and then west to the proposed 230-kV substation. Single-circuit tubular steel poles (TSPs) at 1,000-foot spacing were assumed, each 88 feet tall, with a 5-foot base diameter. The collector lines connecting the solar arrays will be buried and are therefore not shown in the simulations.

The simulations were produced from photography of the Sienna Project area and 3D modeling of a typical solar array design. For purposes of the simulations, the panel array is assumed to consist of an 8-foot fixed panel on a 20-foot tall post, with a 10-foot access lane between rows of panels. The perspective and lighting of each KOP view was matched to the 3D model and the proposed views were rendered. Foreground elements in the photographs were masked out and the 3D rendering was composited with the background. Atmosphere, noise, and blur was added to the 3D rendering to match the photography.

At each KOP, the existing visual conditions were compared to those under the development of the Sienna Project area, based on the visual simulations. The comparison considers the existing quality of scenic backdrops, background vistas, and foreground views across the Sienna Project area and the Project's alteration of these scenic views. The locations of the six KOPs in relation to the Sienna Project site are presented in Figure 3.2-2.

An assessment of visual quality is a subjective matter, and reasonable people can disagree as to whether alteration in the visual character of the Project area would be adverse or beneficial. The potential for substantial change to the visual character of a site and its surroundings is generally considered a significant impact.

Impact Analysis

Impact 3.2-1 Would the Project have a substantial adverse effect on a scenic vista?

SIENNA PROJECT

Less than Significant Impact. Scenic vistas are typically expansive views from elevated areas that may or may not be part of a designated scenic overlook or other area providing a static view of a

landscape. During construction, the use of standard construction equipment including, but not limited to, trucks, cranes, and tractors would be required. The presence of this equipment within the Sienna Project site during construction would alter views of the area from undeveloped and vacant desert land to a construction site. However, the views of construction activity from the surrounding vicinity would be temporary and would not involve any designated scenic vistas as there are no designated scenic vistas in the Sienna Project vicinity.

As previously mentioned above, there are no DOT vista points on state highways within the Sienna Project vicinity. The nearest vista point identified by Caltrans is the Bear Valley Dam Vista Point in the San Bernardino Mountains, approximately 20 miles south of the Sienna Project area. The Sienna Project area is not visible from this vista point (Caltrans 2015). Therefore, the Sienna Project would not have a substantial adverse effect on a scenic vista. Impacts are considered less than significant.

CALCITE SUBSTATION

No Impact.

According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), there are no San Bernardino County–designated or community recognized scenic vistas in the study area. Therefore, the proposed Calcite Substation would have no impact on scenic vistas.

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with a substantial adverse effect on a scenic vista. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.2-2 Would the Project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?

SIENNA PROJECT

Less than Significant Impact. As previously mentioned, SR 247, which lies approximately one mile west and 2.5-miles south of the Sienna Project site, is eligible for California State Scenic Highway

Designation (Caltrans 2018). The County of San Bernardino has also designated SR 247 in the Sienna Project vicinity as a Scenic Route (County of San Bernardino 2020a).

Motorists traveling along this roadway would generally view an industrial character with both new and existing high voltage transmission lines being the most visible man-made structures. However, the proposed Sienna Project would be minimally discernable in the landscape. When visible, the proposed solar array for the Sienna Project adds an industrial character to the landscape, but the degree of contrast introduced to the view is low. Although brief and intermittent views to the Sienna 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 247.

Potential views to the Sienna Project site from the nearest vantage point from SR 247 would occur at a distance of one mile, looking east. Due to this distance, combined with intervening topography, as well as elevational differences, views of the Sienna Project would not substantially damage scenic resources in the surrounding vicinity. The Sienna Project would be absorbed into the broader landscape that already includes electricity transmission and utility lines. Therefore, existing public views to the Sienna 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, the Sienna Project would not substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. Impacts are considered less than significant.

CALCITE SUBSTATION

No Impact. According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), although SR 247 is a State-Eligible and County-Designated Scenic Highway, there are no State-Designated Scenic Highways in the study area. Therefore, the proposed Calcite Substation would have no impact on a scenic highway.

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with a scenic highway. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.2-3 In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project is located within a non-urbanized area. The existing visual character in views of the Sienna Project would not be substantially altered based primarily on proximity of viewpoints to the Sienna Project site. Short-term visual impacts would occur in association with construction activities, including introducing heavy equipment (e.g., cranes), staging and materials storage areas and potential dust and exhaust to the Sienna Project area. While construction equipment and activity may present a visual nuisance, it would be temporary (approximately 12-24 months) and would not represent a permanent change in views.

To provide a basis for evaluating the visual effect of the Sienna Project on views, visual simulations were produced to illustrate the "after" visual conditions from each of the KOPs. At each KOP, the existing visual conditions were compared to those under the development of the Sienna Project area, based on the visual simulations. The comparison considers the existing quality of scenic backdrops, background vistas, and foreground views across the Sienna Project area and the Project's alteration of these scenic views. The locations of the six KOPs in relation to the Sienna Project site are presented in Figure 3.2-2. Descriptions and potential impacts on these KOPs are discussed below.

KOP 1 (Figure 3.2-6): Photograph 1 shows the existing north-northeastern view toward the Sienna Project area from SR 247 near its intersection with Holmes Road and Photograph 2 shows a simulation of the view as it will appear after construction. The existing view to motorists on SR 247 includes deteriorated low wood post and wire fencing, as well as wood post distribution lines paralleling the roadway. Low golden grasses dominate the view, with sparce dark green shrubs in the middle-ground and mountains in the distance.

As shown in the simulated view, the solar array presents as an indistinct horizontal linear feature in the middle-ground of the view, beyond the dotting of low shrubs. The existing high voltage transmission line remains the most visible man-made structure in the middle-ground of the view. From KOP 1, the proposed Sienna Project is not identifiable as a new feature in the landscape and would not introduce an impact to visual resources.

KOP 2 (Figure 3.2-7): Photograph 1 shows the existing southeast view toward the Sienna Project area from SR 247 near Peterman Hill, and Photograph 2 shows a simulation of the view as it will appear after construction. The existing view for southbound motorists on SR 247 includes a landscape dotted with low vegetation. The distant San Bernardino Mountains dominate the view.

From KOP 2, the overall character and experience for the viewer would not change substantially with implementation of the Sienna Project. As shown in the simulated view, the solar facility is nearly imperceptible when viewed from the roadway and would likely go unobserved by motorists traveling on SR 247. From KOP 2, the Sienna Project is not identifiable as a new feature in the landscape and would not introduce an impact to visual resources.

KOP 3 (Figure 3.2-8): Photograph 1 documents the existing northern view toward the Sienna Project area from SR 247 near Peterman Hill, and Photograph 2 shows a simulation of the view as it will appear after construction. The existing view to northbound motorists on SR 247 includes generally flat land surfaces in the near and middle-ground, dipping down then sloping up to the mountain range in

the background. Tan soils and low shrubby olive-green vegetation characterize the landscape, and a major transmission line corridor with different types of lattice steel structures extends west to east across the view.

From KOP 3, the overall character and experience for viewers would change minimally with implementation of Sienna Project. As shown in the simulated view, new tubular steel poles associated with the 230- kV gen-tie line would be visible, along with the new 230-kV substation. From KOP 3, the Sienna Project would bring a new industrial character to the view, but the proposed infrastructure is consistent with the existing high-voltage transmission infrastructure and the mountains to the north remain the most prominent visual feature.

KOP 4 (Figure 3.2-9): Photograph 1 documents the existing southeast view toward the Sienna Project area from Northside Road between Meridian Road and Huff Road, and Photograph 2 shows a simulation of the view as it will appear after construction. Multiple rural residences are located nearby, and residents would experience similar views. The existing view includes an extremely flat landscape with exposed tan soils and sparse, low, dusty-green shrubs and golden grasses in the middle-ground. White-tarped hoop houses contrast with the darker, mountain backdrop. Short fencing with wooden post and thin wire mesh line Northside Road, and distribution lines are strung along the roadway.

From KOP 4, the overall character and experience for viewers would change with implementation of the Sienna Project. As shown in the simulated view, the solar facility would introduce larger-scale utilities to the landscape. From KOP 4, the proposed Sienna Project would introduce a new industrial character to the view. In particular, new 230-kV tubular steel poles associated with the gen-tie line are skylined above the hills and mountains in the distance. As a result, the Sienna Project introduces a moderate amount of visual contrast to the view from KOP 4.

KOP 5 (Figure 3.2-10): Photograph 1 documents the existing southeast view toward the Sienna Project area from Northside Road near the intersection of Logoo Street and Locust Avenue, and Photograph 2 shows a simulation of the view as it will appear after construction. The existing view includes an extremely flat landscape with exposed tan soils and sparse, low, dusty-green shrubs and golden grasses in the middle-ground. Distribution lines are strung along Northside Road.

From KOP 5, the overall character and experience for viewers would change with implementation of the Sienna Project. As shown in the simulated view, the solar facility would be faintly visible as a linear feature. The new 230-kV TSPs associated with the gen-tie line are not visible in the with-Project view from KOP 5, leaving the hills and mountains in the distance as the most prominent visual features in the landscape.

KOP 6 (Figure 3.2-11): Photograph 1 documents the existing northern view toward the Sienna Project area from Locust Avenue, between Sunswept Drive and Wilshire Road, and Photograph 2 shows a simulation of the view as it will appear after construction. The existing view includes a generally flat landscape, with exposed tan soils and golden grasses, except where taller green vegetation in the middle-ground identifies residential areas. The lattice steel towers of a high-voltage powerline are visible in the middle-ground, as are the wood poles associated with local electrical distribution lines, with prominent rocky mountains in the distance.

From KOP 6, the overall character and experience for viewers would change with implementation of the Sienna Project. As shown in the simulated view, the solar array presents as an indistinct horizontal linear feature in the middle-ground of the view. The existing high voltage transmission tower and wooden distribution lines remain the most visible man-made structure in the middle-ground of the view along Locust Avenue, and the distant mountains remain the most prominent visual features in the landscape.

Conclusion. As described above and illustrated in Figure 3.2-6 through Figure 3.2-11, in most views, the Sienna Project is minimally discernable in the landscape. When visible, the Sienna Project's solar array adds an industrial character to the landscape, but the degree of contrast introduced to the view is low. The proposed gen-tie line also adds industrial character, especially in views where the associated transmission structures are in the horizon, but the structures are similar in form to existing electrical infrastructure in the vicinity. Overall, the Sienna Project would not substantially degrade the existing visual character or quality of public views of the area and its surroundings. Impacts are considered less than significant.

CALCITE SUBSTATION

Significant and Unavoidable. According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the long-term presence of the proposed Calcite Substation would introduce industrial character and visual contrast to a predominantly natural-appearing landscape, which could cause substantial visual degradation of the site.

The proposed Calcite Substation and associated facilities would connect to the existing Lugo-Pisgah No. 1 line, which is the southernmost transmission facility in the corridor, via a series of interconnect poles. The proposed Calcite Substation and associated facilities would result in the introduction of a visually prominent and structurally complex electric transmission facility with its associated industrial character and structural contrast into the predominantly natural desert landscape of the central portion of Lucerne Valley. The notable exception is the existing high-voltage electric transmission lines. Although the existing transmission corridor establishes a prominent industrial feature in the landscape, the "transparent" nature of the corridor's lattice structures helps to lessen the overall structural prominence. The concentration of industrial features comprising the proposed substation would exacerbate the adverse visual contrast already present.

In the context of the existing landscape, the proposed Calcite Substation would exhibit Moderate to High visual contrast. The foreground substation would appear visually co-dominant with the valley floor, background landforms, and existing transmission line facilities and would noticeably impair views of the background valley floor and San Bernardino Mountains. The structurally complex facility would attract the attention of the casual observer on SR 247, and view blockage of higher value landscape features (e.g., background valley floor and mountains) would be Moderate to High. Combining the Moderate to High visual contrast, Co-dominant structural prominence, and Moderate to High view blockage results in an overall Moderate to High degree of visual change, which in the context of the existing landscape's High visual sensitivity, results in a visual effect that would be significant and unavoidable. Implementation of MM ALG-6, as described in Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* and provided below, is recommended as it would reduce the visual contrast associated with visually discordant structural features and industrial character, though not to a level that would be less than significant (California State Land Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a significant and unavoidable impact associated with degradation of the existing visual character or quality of public views of the site and its surroundings. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. However, as described in the analysis above, even with implementation of mitigation, this impact would be significant and unavoidable. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM ALG-6 **Surface Treatment and Design of Project Structures and Buildings.** To the extent commercially feasible, the Applicant shall treat the surfaces of all non- temporary large Project structures and buildings visible to the public and all gen-tie structures such that: (a) their colors minimize visual intrusion and contrast by blending with (matching) the existing characteristic landscape colors; (b) their colors and finishes do not create excessive glare; and (c) their colors and finishes are consistent with local policies and ordinances. Gen-tie Line conductors shall be non-specular and non- reflective, and the insulators shall be non-reflective and non-refractive. The Applicant shall implement the following requirements:

- Carefully consider the selection of color(s) and finishes based on the characteristic landscape. Colors will be field tested using the actual distances from the KOPs to the proposed structures, using the proposed colors painted on representative surfaces.
- Color treatment shall be applied to all major Project structures and buildings; the gen-tie line towers and/or poles; and walls or fencing.
- Develop a procedure to ensure proper color treatment maintenance for the life of the Project.
- Minimize the number of structures and combine different activities in one structure, where possible. Use natural, self-weathering materials and chemical treatments on surfaces to reduce color contrast. Bury all or part of structures to the extent practical. Use natural appearing forms to complement the characteristic landscape. Screen the structure from view by using natural landforms and vegetation. Reduce the line contrast created by straight edges.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM ALG-6, as described in Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with the degradation of the existing visual character or quality of public views would be reduced but would remain significant and unavoidable.

Figure 3.2-6. KOP 1

Photograph 1. Existing view looking north-northeast toward the Project area from SR 247 near Holmes Road.

Photograph 2. Simulated view after construction of the proposed Project.

Source: Appendix B of this EIR

Figure 3.2-7. KOP 2

Photograph 1. Existing view looking southeast toward the Project area from SR 247 near Wilderness Road.

Photograph 2. Simulated view after construction of the proposed Project.

Source: Appendix B of this EIR

Figure 3.2-8. KOP 3

Photograph 1. Existing view looking north toward the Project area from SR 247 near Haynes Road.

Photograph 2. Simulated view after construction of the proposed Project.

Source: Appendix B of this EIR

Figure 3.2-9. KOP 4

Photograph 1. Existing view looking southeast toward the Project area from Northside Road between Meridian Road and Huff Road.

Photograph 2. Simulated view after construction of the proposed Project.

Source: Appendix B of this EIR

Figure 3.2-10. KOP 5

Photograph 1. Existing view looking southeast toward the Project area from Northside Road near Locust Avenue.

Photograph 2. Simulated view after construction of the proposed Project.

Source: Appendix B of this EIR

Figure 3.2-11. KOP 6

Photograph 1. Existing view looking north toward the Project area from Locust Avenue between Sunswept Drive and Wilshire Road.

Photograph 2. Simulated view after construction of the proposed Project.

Source: Appendix B of this EIR

Impact 3.2-4 Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

SIENNA PROJECT

Less than Significant Impact.

Lighting

Construction. Construction associated with the Sienna Project would occur between 7:00 AM and 7:00 PM, Monday through Saturday. 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. Any construction lighting would be directed away from adjacent open space areas and toward active construction areas. Therefore, the Sienna Project 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. Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. The Sienna Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project area.

Additionally, 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 *San Bernardino Policy Plan*, and any new Project lighting would be installed consistent with County requirements. As a result, operation of the Sienna Project 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.

Glare

The Sienna Project would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. The PV panels would not create a significant source of glare during sunlight hours. As previously mentioned, the Sienna Project would also be designed to ensure consistency with County Code Section 83.07.040, Glare and Outdoor Lighting and 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.

Sienna Project facilities including the gen-tie line, BESS, and on-site substation, would be constructed with metallic components, which could introduce new sources of glare compared to the undeveloped area. Any glare associated with the proposed facilities would be minor and highly scattered because the metallic components would be separated geographically and would not concentrate potential glare in any area. The new overhead conductor and steel support structures installed for the on-site substation and gen-tie line would reflect approximately the same level of light as the existing transmission line facilities in the Sienna Project area. The facilities would not involve concentrated light reflection that would become a nuisance or adversely affect daytime views.

Based on the evaluation above, the Sienna Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), it is anticipated that some construction activity could occasionally take place at night, which could result in substantial adverse nighttime lighting visual effects given the general lack of any significant night lighting at the Calcite Substation site. Nighttime illumination of Calcite Substation facilities during the operational phase could cause substantial visual contrast given the general absence of light in the existing landscape. As such, implementation of MM ALG-5, as described in Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR* and below, would reduce potentially significant impacts associated with nighttime lighting to a level less than significant (California State Land Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with nighttime lighting. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM ALG-5: **Minimize Night Lighting at Project Facilities.** The Applicant shall avoid night lighting where possible and minimize its use under all circumstances. To ensure this, the Applicant shall implement the following requirements for both construction and operation:

- Illumination of the Project and its immediate vicinity shall be minimized
- Lamps and reflectors are to be fully shielded with sufficient cutoff angles such that they are not visible from beyond the construction site or facility including any off-site security buffer areas
- Lighting shall emphasize the use of low-pressure sodium (LPS) or amber light-emitting diode (LED) lighting

- Lighting shall not cause excessive reflected glare and shall not illuminate the nighttime sky, except for required Federal Aviation Administration (FAA) aircraft safety lighting (which, if required, shall be an on-demand, audio-visual warning system that is triggered by radar technology)
- Creation of sky glow caused by project lighting shall be avoided
- All permanent light sources shall be below 3,500 Kelvin color temperature (warm white) and shall be full cutoff fixtures
- All security lighting is to be motion activated only through the use of passive infrared sensors and controlled as specific zones such that only targeted areas are illuminated

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM ALG-5, as described in Section 4.1, Aesthetics/Light and Glare, of the *Stagecoach Solar Project Draft EIR,* potential impacts associated with light and glare would be reduced to a less than significant level.

3.3 Agricultural Resources

This section provides an overview of existing agricultural resources within the Project site and identifies applicable plans, policies, and regulations related to the conservation of agricultural lands. The impact assessment provides an evaluation of potential adverse impacts on agricultural resources based on criteria derived from the CEQA Guidelines in conjunction with the proposed Project activities described in Chapter 2, Project Description.

No forestry resources are present within the Project site and, therefore, this section focuses on issues related to agricultural resources only.

3.3.1 Existing Conditions

Regional Agriculture

As indicated in the *San Bernardino Countywide Plan Draft EIR*, there were approximately 60,279 acres of agricultural lands in use within the County in 2014, of which approximately 64 percent were located within unincorporated areas of the county (San Bernardino County 2019). Although agricultural use in the County has declined over the last several decades as the result of urban expansion and economic conditions, the total agricultural production in San Bernardino County in 2016 was valued at approximately $456.4 million with the top crops by dollar value being primarily cattle (milk and meat), eggs, and alfalfa (San Bernardino County 2019).

Within the County, there are approximately 19,821 acres of mapped important farmland. Approximately half that total (9,649 acres) was in the Valley Region, and nearly all the rest was in the North Desert Region. About 57 percent of the total was Prime Farmland, and most of the remainder was Farmland of Statewide Importance. Approximately 61 percent of total important farmland is located within unincorporated areas (San Bernardino County 2019).

Important Farmland

Sienna Project

The Sienna Project area is characterized by a mixture of scattered residential properties, undeveloped and vacant land, and agricultural land that includes alfalfa and jojoba farms and large-scale hemp growing operations. Small-scale abandoned and operational hemp and/or marijuana growing operations were present throughout the playa region of the Sienna Project area.

According to the farmland maps prepared by the California Department of Conservation (DOC), the majority of the Sienna Project site is designated as Grazing Land (DOC 2018). The southern portion of the Sienna Project site contains land designated as Farmland of Statewide Importance and Other Land. As shown in Figure 3.3-1, approximately 1,390.70 acres of the Sienna Project site is designated as Grazing Land, 456.80 acres as Farmland of Statewide Importance, and 7.50 acres as Other Lands.

Calcite Substation

According to Section 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site does not contain any land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (California

State Lands Commission 2021). As shown in Figure 3.3-1, the Calcite Substation site is designated as Grazing Land by the California DOC.

Williamson Act Contract Lands

Sienna Project

According to the *County of San Bernardino Countywide Plan EIR*, the Sienna Project site parcels are not under Williamson Act contract (County of San Bernardino 2019).

Calcite Substation

According to Section 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation site is not enrolled in a Williamson Act contract (California State Lands Commission 2021).

Zoning

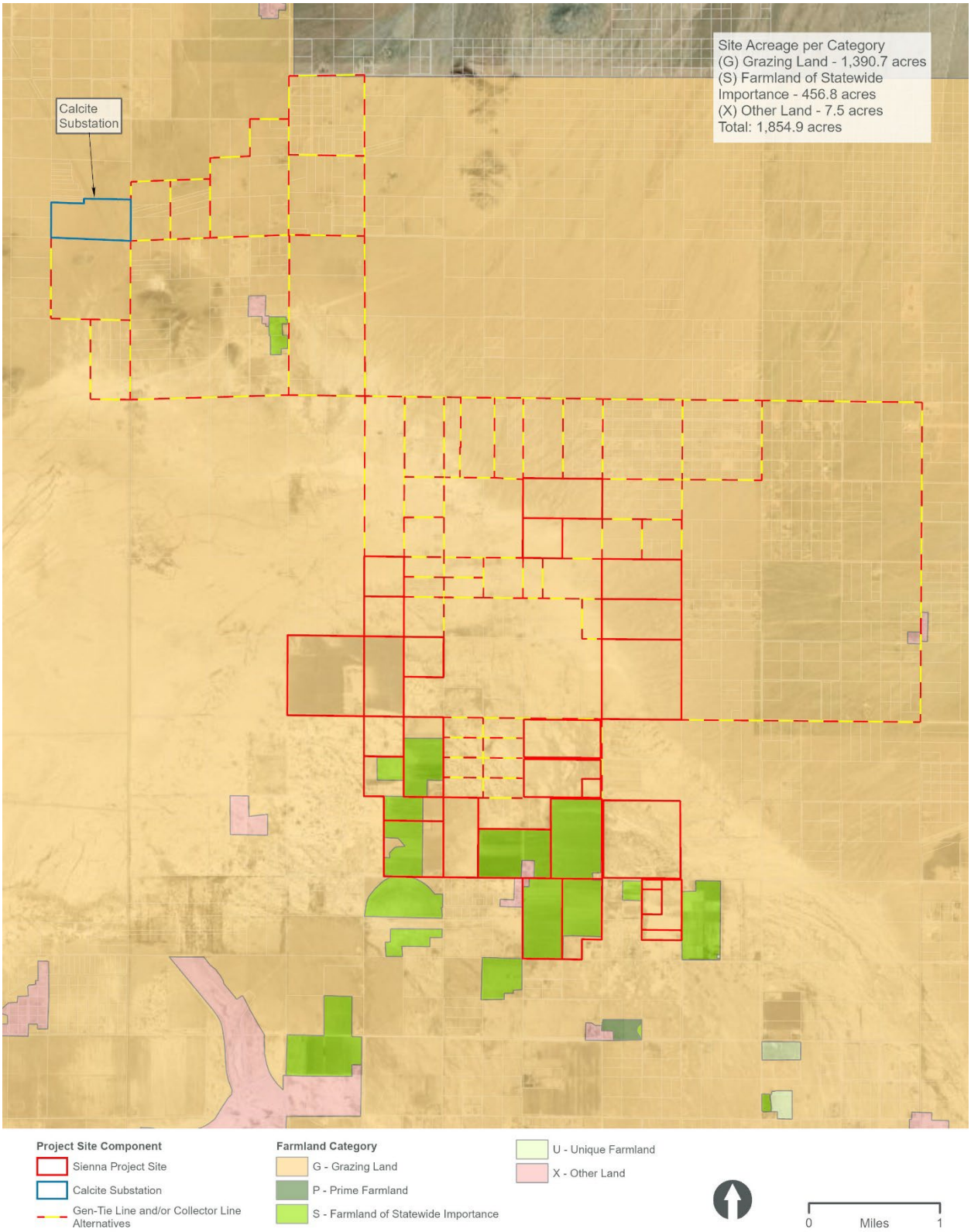
Sienna Project

The Sienna Project site is designated as Resource Land Management (RLM) and Rural Living (RL) in the San Bernardino Countywide Plan and is zoned “Lucerne Valley/Agriculture” (LV/AG) and “Lucerne Valley/Rural Living (5 Acre Minimum)” (LV/RL-5) (County of San Bernardino 2020). Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land with County approval of a Conditional Use Permit (CUP).

Calcite Substation

The Calcite Substation site is zoned Lucerne Valley/Agriculture (40 acre Minimum) (LV/AG-40) (County of San Bernardino 2020).

Figure 3.3-1. Farmland Mapping and Monitoring Program Designations



3.3.2 Regulatory Setting

This section identifies and summarizes state and local laws, policies, and regulations that are applicable to the Project.

State

California Land Conservation Act

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing land in agricultural use to be placed under contract (agricultural preserve) between a local government and a landowner.

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for reduced property tax assessment. The contract is self-renewing and the landowner may notify the County at any time of intent to withdraw the land from its preserve status. Withdrawal involves a 10-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Consequently, land under a Williamson Act Contract can be in either a renewal status or a nonrenewable status. Lands with a nonrenewable status indicate the farmer has withdrawn from the Williamson Act Contract and is waiting for a period of tax adjustment for the land to reach its full market value. Nonrenewable and cancellation lands are candidates for potential urbanization within a period of 10 years.

The requirements necessary for cancellation of land conservation contracts are outlined in Government Code Section 51282. The County must document the justification for the cancellation through a set of findings. Unless the land is covered by a farmland security zone contract, the Williamson Act requires that local agencies make both the Consistency with the Williamson Act and Public Interest findings.

California Farmland Mapping and Monitoring Program

The California DOC, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state's farmland to and from agricultural use. The map series identifies eight classifications, as defined below, and uses a minimum mapping unit size of 10 acres.

- Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

- Farmland of Local Importance is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.
- Urban and Built-up Land is occupied by structures with a building density of at least one unit to 1.5 acre, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, prisons, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- Water is defined as perennial water bodies with an extent of at least 40 acres.
- Other Land is land not included in any other mapping category. Common examples include low density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined animal agriculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. More detailed data on these uses is available in counties containing the Rural Land Use Mapping categories.

Local

San Bernardino Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The Natural Resources Element of the Policy Plan provides guidance and support for mining operations and the preservation of agricultural lands and provides guidance on the location and distribution of new development to protect natural resources (San Bernardino County 2020). Relevant policies from the Policy Plan are summarized below.

NATURAL RESOURCES ELEMENT

POLICY NR-7.1 **Protection of agricultural land.** Protect economically viable and productive agricultural lands from the adverse effects of urban encroachment, particularly increased erosion and sedimentation, trespass, and non-agricultural land development.

POLICY NR-7.2 **Preservation of important farmlands.** Require project applicants seeking to develop 20 or more acres of farmland (classified as prime, of statewide importance, or unique farmland) to non-agricultural uses to prepare an agricultural resource evaluation prior to project approval. The evaluation shall use generally accepted methodologies to identify the potentially significant impact of the loss of agricultural land as well as the economic viability and sustainability of future agricultural use of the property, including long-term sustainability and economic viability of water resources. If the conversion is deemed significant, the County shall require mitigation at a 1:1 ratio of converted to preserved acreage through conservation easements, payment of its valuation equivalent if a fee mitigation program is established, or inclusion in a regional agricultural preservation program.

POLICY NR-7.3 **Conservation and preservation incentives.** Support programs and policies that provide tax and economic incentives to conserve existing productive agricultural lands or preserve farmland classified as prime, of statewide importance, unique, or of local importance. Support land owners in establishing new and maintaining existing California Land Conservation (Williamson Act) contracts.

San Bernardino County Development Code

CHAPTER 84.29

Section 84.29 of the San Bernardino County Development Code establishes the development standards and permit procedures for the establishment, maintenance, and decommissioning of renewable energy generation facilities, including solar facilities. According to Section 84.29.020 of the code, both Agriculture (AG) and Rural Living (RL) land use zone districts allow the construction and operation of commercial renewable energy facilities. However, pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land only with County approval of a Conditional Use Permit (CUP). (See Chapter 2, Project Description, for additional details.)

3.3.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to agricultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to agricultural resources are considered significant if the Project would:

- convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use; or
- conflict with existing zoning for agricultural use, or a Williamson Act contract; or,
- involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

Methodology

A qualitative assessment of the proposed Project's potential to permanently impact agricultural resources, including DOC FMMP-designated important farmland, within the Project area was conducted.

Impact Analysis

Impact 3.3-1 ***Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use?***

SIENNA PROJECT

Less than Significant Impact. Pursuant to Public Resources Code Section 21060.1, "Agricultural land" is defined as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland as defined by the United States Department of Agriculture land inventory and monitoring criteria.

As shown in Figure 3.3-1, approximately 1,390.70 acres of the Sienna Project site is designated as Grazing Land, 456.80 acres as Farmland of Statewide Importance, and 7.50 acres as Other Lands. It should be noted that analysis of Grazing Land and Other Lands is not required under CEQA significance criteria, as these designations are not considered an "Agricultural land" per Public Resources Code Section 21060.1.

The Sienna Project would result in the temporary conversion of approximately 456.80 acres of Farmland of Statewide Importance to non-agricultural use (solar facility). While the Sienna Project would temporarily convert Farmland of Statewide Importance to non-agricultural use, development of the Sienna Project site would not preclude future use for agricultural purposes. Rather, once decommissioning occurs at the end of the operational life of the solar generating facility, and Project-related elements will be removed and properly disposed of, the affected lands could be returned to their former agricultural use. In accordance with Section 84.29.070, Decommissioning Requirements, of the San Bernardino County Development Code, the Sienna Project applicant will be required to submit a Closure Plan to the Planning Division for review and approval. The Decommissioning Plan shall satisfy the following requirements:

a) Following the operational life of the Project, the project owner shall perform site closure activities to meet federal, state, and local requirements for the rehabilitation and revegetation of the Project site after decommissioning. The Project owner shall prepare a Closure, Revegetation, and Rehabilitation Plan and submit it to the Planning Division for review and approval prior to building permit issuance. Under this plan, all aboveground structures and facilities shall be removed to a depth of three feet below grade, and removed offsite for recycling or disposal. Concrete, piping, and other materials existing below three feet in depth may be left in place. Areas that had been graded shall be restored to original contours unless it can be shown that there is a community benefit for the grading to remain as altered. Succulent plant species native to the area shall be salvaged prior to construction, transplanted into windrows, and maintained for later transplanting following decommissioning. Shrubs and other plant species shall be revegetated by the collection of seeds and re-seeding following decommissioning.

b) Following the operational life of the Project, the developer shall perform site closure activities in accordance with the approved closure plan to meet federal, state, and local requirements for the rehabilitation and re-vegetation of the Project site after decommissioning. Project decommissioning shall be performed in accordance with all other plans, permits, and mitigation measures that would assure the Project conforms to applicable requirements and would avoid significant adverse impacts.

Although the Sienna Project would result in the installation of the solar panels and related transmission infrastructure, the actual footprint of the elements on the site would be limited to: Footings (driven piers) for the solar arrays; concrete pads for the inverters/transformers, substations, battery storage, and supervisory control and data acquisition structures; gen-tie line infrastructure; perimeter security fencing; on-site access routes, and; the O&M building, thereby reducing the actual disturbance to the property as compared to if it were fully developed with residential or commercial building pads or other

such structures and supporting infrastructure. Based on the evaluation above, impacts related to the conversion of Farmland of Statewide Importance to non-agricultural use would be less than significant.

CALCITE SUBSTATION

No Impact. According to Section 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site does not contain any land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (California State Lands Commission 2021). Therefore, the proposed Calcite Substation would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and no impact would occur.

The *Stagecoach Solar Project Draft EIR* did not identify an impact regarding the conversion of Important Farmland to non-agricultural uses. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.3-2 Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

SIENNA PROJECT

No Impact. The Sienna Project site is zoned LV/AG and LV/RL-5 (County of San Bernardino 2020). Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land with County approval of a CUP. With the approval of the CUP, the Sienna Project would be consistent with the San Bernardino County Development Code and would not conflict with existing zoning. Therefore, the Sienna Project would not conflict with existing zoning for agriculture use and no impact is identified.

According to the *County of San Bernardino Countywide Plan EIR*, the Sienna Project site parcels are not under Williamson Act contract (County of San Bernardino 2019). Therefore, implementation of the Sienna Project would not conflict with a Williamson Act contract. No impact would occur.

CALCITE SUBSTATION

No Impact. The proposed Calcite Substation site is zoned LV/AG-40 (County of San Bernardino 2020). The County's land use regulations are not applicable to the Calcite Substation project because it is proposed by the local utility, in this case, Southern California Edison. Therefore, the Calcite Substation would not conflict with existing zoning for agriculture use and no impact is identified.

According to Section 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation site is not enrolled in a Williamson Act contract (California State Lands Commission 2021). Therefore, implementation of the proposed Calcite Substation would not conflict with a Williamson Act contract. No impact would occur.

The *Stagecoach Solar Project Draft EIR* did not identify an impact regarding a conflict with existing zoning for agriculture use or a Williamson Act contract. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.3-3 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?

SIENNA PROJECT

Less than Significant Impact. As stated above under Impact 3.3-1, approximately 1,390.70 acres of the Sienna Project site is designated as Grazing Land, 456.80 acres as Farmland of Statewide Importance, and 7.50 acres as Other Lands. While the Sienna Project would temporarily convert this land to non-agricultural use, development of the Project site as proposed would not preclude future use for agricultural purposes. Rather, once decommissioning occurs at the end of the operational life of the solar generating facility, and Project-related elements are removed and properly disposed of, the affected lands could be returned to their former agricultural use. In accordance with Section 84.29.070, Decommissioning Requirements, of the San Bernardino County Development Code, the Sienna Project applicant will be required to submit a Closure Plan to the Planning Division for review and approval.

Lands surrounding the Sienna Project site are zoned for Agricultural and Rural Living. The use of the site for generation of electricity through passive conversion of sunlight is not anticipated to negatively

affect nearby agricultural production (alfalfa and jojoba farms and large-scale hemp growing operations). The Sienna Project is not anticipated to affect existing surrounding growers and would not require additional restrictions and limitations related to farming activities off site including the use of pesticides, fungicides, and herbicides used on crops grown on surrounding farmlands as well as other activities associated with farming such as noise restrictions, crop burning, and dust control.

Vehicle emissions from adjacent transportation routes and increased roadways can impact the health and survival of crops. It is anticipated that construction traffic would increase vehicle emissions. However, this would be a temporary situation and would cease once construction is completed.

Operation and maintenance activities associated with PV solar power plants are minimal. The Sienna Project site would have an on-site staff of up to approximately 15 personnel to conduct preventative and corrective maintenance, and to maintain the security of the project site. Operational traffic would be minimal and would be limited to the approximately 15 on-site employees and routine maintenance vehicles. The PV modules are non-reflective and convert sunlight directly into electricity. Therefore, they consume no fossil fuels and emit no pollutants during operations. In addition, the Sienna Project would not include activities that would restrict or impair agricultural production on adjacent land. Based on the evaluation above, the Sienna Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use. Impacts are considered less than significant.

CALCITE SUBSTATION

No Impact. According to Section 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site does not contain any land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (California State Lands Commission 2021). Therefore, the Calcite Substation would not 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 (California State Land Commission 2021). Thus, no impact would occur, and no mitigation is required.

The *Stagecoach Solar Project Draft EIR* did not identify an impact regarding other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

This page is intentionally blank.

3.4 Air Quality

This section includes an overview of the existing air quality within the Project area and identifies applicable plans, policies, and regulations related to air quality. The impact assessment provides an evaluation of the Project's potential adverse effects on air quality based on criteria derived from the CEQA Guidelines and Mojave Desert Air Quality Management District's (MDAQMD) standards in conjunction with actions proposed in Chapter 2, Project Description, of this EIR. Information contained in this section is summarized from the Project-specific *Air Quality and Greenhouse Gas Study* prepared by Rincon Consultants, Inc. (Appendix C of this EIR) and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.4.1 Existing Conditions

Regional Setting

The Project is located in San Bernardino County within the Mojave Desert Air Basin (MDAB). The MDAB consists of the desert portions of northwestern Los Angeles County, eastern Kern County, northeastern Riverside County, and San Bernardino County. The MDAQMD has jurisdiction within the MDAB and monitors and regulates its local air quality.

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. The region is closed off from southern coast of California and central California by mountain ranges with the Sierra Nevada Mountains to the north, the Tehachapi Mountains to the northwest, and the San Gabriel and San Bernardino Mountains to the south. The Sonoran Desert borders the eastern and southern portions of the air basin (Appendix C of this EIR).

The regional climate in the MDAB is dry-host desert climate characterized by little cloud formation, daytime solar heating, and infrequent precipitation. During summer, the MDAB is normally influenced by the Pacific subtropical high cell off the coast that prevents cloud formation and encourages daytime solar heating. Cold air masses moving south from Canada and Alaska do not generally influence the MDAB because the frontal systems are weak and diffuse before they reach the desert. Therefore, desert moisture comes in the form of warm, moist, unstable air masses from the south and the MDAB averages three to seven inches of rain annually (Appendix C of this EIR).

Major Air Pollutants

Criteria Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and State governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. Particulate matter is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 3.4-1.

Table 3.4-1. Criteria Air Pollutants – Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health and Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between ROGs and N_2O in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} and $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, woodburning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA) 2021.

Notes: CO=Carbon Monoxide; N_2O=Nitrous Oxides; NO_2=Nitrogen Dioxide; O_3=Ozone; $PM_{2.5}$=Particulate Matter with a diameter less than 2.5 micrometers; PM_{10}= Particulate Matter with a diameter less than 10 micrometers; SO2=Sulfur Dioxide; ROGs=Reactive Organic Gases.

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TAC) are another group of pollutants of concern. Assembly Bill 1807 (AB 1807) sets forth a procedure for the identification and control of TACs in California. The California Air Resources Board (CARB) defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. Because no safe levels of TACs can be determined, there are no ambient air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM). However, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities (Appendix C of this EIR).

Diesel Particulate Matter

Diesel engine fuel combustion forms an important fraction of the particulate matter emission inventory, as particulates in diesel emissions are very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens. The Office of Environmental Health Hazard Assessment (OEHHA) reviewed and evaluated the potential for diesel exhaust to affect human health, and the associated scientific uncertainties. Based on the available scientific evidence, it was determined that a level of DPM exposure has not been identified, below which no carcinogenic effects are anticipated. The Scientific Review Panel that approved the OEHHA report determined that, based on studies to date, 3 x 10-4 micrograms per cubic meter (µg/m) is a reasonable estimate of the unit risk for DPM. This means that a person exposed to a DPM concentration of 1 $\mu g/m^3$ continuously over the course of a lifetime has a 3 per 10,000 chance (or 300 in one million chance) of contracting cancer due to this exposure. In 2000, the statewide estimated average concentration of diesel PM was 1.26 $\mu g/m^3$ for indoor and outdoor ambient air. If DPM concentrations remained the same, about 380 excess cancers per one million population could be expected (Appendix C of this EIR). Therefore, these particulate emissions have been determined by CARB to be a TAC.

DPM emissions are estimated to be responsible for about 70 percent of the total ambient Statewide air toxics risk. DPM can also be responsible for elevated localized or near-source exposures (“hot-spots”). Depending on the activity and nearness to receptors, these potential risks are as high as 1,500 per million or more. CARB staff have conducted risk characterization scenarios to determine the potential excess cancer risks involved when individuals are near various sources of diesel engine emissions, ranging from school buses to high volume freeways. The purpose of the risk characterization was to estimate, through air dispersion modeling, the cancer risk associated with typical diesel-fueled engine or vehicle activities based on modeled PM concentration at the point of maximum impact. The study included various sources of DPM emissions, including idling school buses, truck stops, low- and high-volume freeways, and other sources. High-volume freeways (20,000 or more trucks per day) were estimated to cause 800-1,700 per million potential excess cases of cancers, while low-volume freeways (2,000 or fewer trucks per day) were estimated to cause about 100 to 200 per million potential excess cases of cancers Statewide (Appendix C of this EIR).

Attainment Status

The U.S. Environmental Protection Agency (EPA) and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than ozone [O_3], PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period.

The portion of the MDAB overseen by the MDAQMD is designated severe nonattainment for the federal eight-hour O_3 standard, federal 24-hour PM_{10} standard (San Bernardino County only), state O_3 standard, state PM_{10} standard, and state $PM_{2.5}$ standard. The area is classified attainment or unclassified/attainment for all other criteria pollutants.

Valley Fever

Valley Fever or coccidioidomycosis is caused locally by the microscopic fungus Coccidioides immitis (*C. immitis*). The Coccidioides fungus resides in the soil in southwestern United States, northern Mexico, and parts of Central and South America. During drought years, the number of organisms competing with *C. immitis* decreases, and the *C. immitis* remains alive but dormant. When rain finally occurs, the fungal spores germinate and multiply more than usual because of fewer other competing organisms. Later, the soil dries out in the summer and fall, and the fungi can become airborne and potentially infectious (Appendix C of this EIR).

Infection occurs when the spores of the fungus become airborne and are inhaled. The fungal spores become airborne when contaminated soil is disturbed by human activities, such as construction and agricultural activities, and natural phenomena, such as windstorms, dust storms, and earthquakes. About 60 percent of infected persons have no symptoms. The remainder develop flu-like symptoms that can last for a month and tiredness that can sometimes last for longer than a few weeks. Common symptoms include fatigue, couth, chest pain, fever, rashes on upper body or legs, headaches, muscle aches, night sweats, and unexplained weight loss. A small percentage of infected persons (<1 percent) can develop disseminated disease that spreads outside the lungs to the brain, bone, and skin. Without proper treatment, Valley Fever can lead to severe pneumonia, meningitis, and even death. Symptoms may appear between one to four weeks after exposure. Both humans and animals can become infected with Valley Fever, but the infection is not contagious and cannot spread from one person or animal to another (Appendix C of this EIR).

Diagnosis of Valley Fever is conducted through a sample of blood, other body fluid, or biopsy of affected tissue. Valley Fever is treatable with anti-fungal medicines. Once recovered from the disease, the individual is protected against further infection. Persons at highest risk from exposure are those with compromised immune systems, such as those with human immunodeficiency virus (HIV) and those with chronic pulmonary disease. Farmers, construction workers, and others who engage in activities that disturb the soil are at highest risk for Valley Fever. Infants, pregnant women, diabetics, people of African, Asian, Latino, or Filipino descent, and the elderly may be at increased risk for disseminated disease. Historically, people at risk for infection are individuals not already immune to the disease and whose jobs involve extensive contact with soil dust, such as construction or agricultural workers and archeologists. Most cases of Valley Fever (over 65 percent) are diagnosed in people living in the Central Valley and Central Coast regions (Appendix C of this EIR).

There is no vaccine to prevent Valley Fever. However, the California Department of Public Health recommends the following practical tips to reduce exposure (Appendix C of this EIR):

- Stay inside and keep windows and doors closed when it is windy outside and the air is dusty, especially during dust storms.
- Consider avoiding outdoor activities that involve close contact to dirt or dust, including yard work, gardening, and digging, especially if you are in one of the groups at higher risk for severe or disseminated Valley fever.

- Cover open dirt areas around your home with grass, plants, or other ground cover to help reduce dusty, open areas.
- While driving in these areas, keep car windows closed and use recirculating air, if available.
- Try to avoid dusty areas, like construction or excavation sites.
- If you cannot avoid these areas, or if you must be outdoors in dusty air, consider wearing an N95 respirator (a type of face mask) to help protect against breathing in dust that can cause Valley fever.

However, in situations where digging dirt or stirring up dust will happen, then the following tips are recommended:

- Stay upwind of the area where dirt is being disturbed.
- Wet down soil before digging or disturbing dirt to reduce dust.
- Consider wearing an N95 respirator (mask).
- After returning indoors, change out of clothes if covered with dirt.
    - Be careful not to shake out clothing and breathe in the dust before washing. If someone else is washing your clothes, warn the person before they handle the clothes.

In 2020, approximately 246 cases were reported in San Bernardino County. This is a decrease of 16 cases compared to 2019 (230 cases). In 2019, the incident rate was 10.4 cases per 100,000 people (Appendix C of this EIR).

Local 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 EPA 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.

MDAQMD currently operates six active air quality monitoring stations in the MDAB. The nearest monitoring station that monitors all the relevant criteria pollutants is the Victorville (14306 Park Avenue) monitoring station, which is approximately 31 miles west of the Project area. This station monitors O_3, $PM_{2.5}$, and NO_2 along with PM_{10}. Table 3.4-2 indicates the number of days that each of the standards was exceeded at both monitoring station during the years 2019, 2020, and 2021. The data collected at the Victorville station indicates that the 8-hour O_3 state and federal standard was exceeded in 2019, 2020, and 2021. In addition, the state 1-hour O_3 was exceeded all three years. The PM_{10} federal standard was exceeded in 2019, 2020, and 2021. The federal $PM_{2.5}$ standard was exceeded in 2020 and 2021. No other federal or state standards were exceeded at these monitoring stations.

Table 3.4-2. Ambient Air Quality at the Nearest Monitoring Stations

Pollutant	2019	2020	2021
Ozone (O_3)			
8 Hour Ozone (ppm), 8-Hr Maximum[1]	0.081	0.094	0.098
Number of Days of State exceedances (>0.070)	34	38	35
Number of Days of Federal exceedances (>0.070)	29	35	345
Ozone (ppm), Worst Hour[1]	0.104	0.112	0.112
Number of days above State standard (>0.09 ppm)	3	4	8
Number of days above Federal standard (>0.112 ppm)	0	0	0
Respirable Particulate Matter (PM_{10})			
Particulate Matter 10 microns, µg/m^3, Worst 24 Hours[1]	170.0	261.4	591.6
Number of days above State standard (>50 µg/m^3)	*	*	*
Number of days above Federal standard (>150 µg/m^3)	2	2	1
Fine Particulate Matter ($PM_{2.5}$)			
Particulate Matter <2.5 microns, µg/m^3, Worst 24 Hours	20.0	48.7	87.1
Number of days above Federal standard (>35 µg/m^3)	0	4	1
Nitrogen Dioxide, NO_2			
Nitrogen Dioxide (ppb), Worst Hour[1]	0.056	0.059	0.057
Number of days above State standard (>180 ppb)	0	0	0
Number of days above Federal standard (>100 ppb)	0	0	0

Source: Appendix C of this EIR

Notes: *NO_2=Nitrogen Dioxide; O_3=Ozone; $PM_{2.5}$=Particulate Matter with a diameter less than 2.5 micrometers; PM_{10}= Particulate Matter with a diameter less than 10 micrometers; ppm=parts per million; ppb=parts per billion; µg/m^3=microgram per cubic meter*

[1] Measurements from the Victorville-14306 Park Avenue station at 14306 Park Avenue, Victorville.

**Indicates that insufficient data available to determine value.*

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.

SIENNA PROJECT

The sensitive receptors with the highest potential to be affected by the Sienna Project include residences surrounding the Sienna Project area. The closest single-family residence is located at the north corner of the Sherman Way and Lincoln Road intersection, immediately east of Accessor Parcel Number 0452-121-42 in the southern portion of the Sienna Project area. The nearest residential community is Lucerne Valley, which is approximately six miles southwest of the Sienna Project area.

CALCITE SUBSTATION

According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the nearest sensitive land uses to the proposed Calcite substation are residences near

the eastern project property boundaries. The nearest sensitive receptor would be approximately 700 feet from construction activities (California State Lands Commission 2021).

3.4.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

Federal

Clean Air Act

The Clean Air Act (CAA), passed in 1970 and last amended in 1990, is the primary federal law that governs air quality. The Federal CAA delegates primary responsibility for clean air to the U.S. EPA. The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone, CO, NO_2, SO_2, Pb, and PM (Including both PM_{10}, and $PM_{2.5}$) are the six criteria air pollutants. Ozone is a secondary pollutant, nitrogen oxides (NO_x) and volatile organic compounds (VOC) are of particular interest as they are precursors to ozone formation. In addition, national standards exist for Pb. The NAAQS standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision.

The Federal CAA requires EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal and state standards are summarized in Table 3.4-3.

Table 3.4-3. Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS	CAAQS
O_3	1-Hour	—	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
CO	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
NO_2	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
SO_2	Annual	0.030 ppm	—
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	—	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
$PM_{2.5}$	Annual	12 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	—
Lead	30-day average	—	1.5 µg/m^3
	3-month average	0.15 µg/m^3	—

Source: Appendix C of this EIR

Notes: *CO=Carbon Monoxide; NO_2=Nitrogen Dioxide; O_3=Ozone; $PM_{2.5}$=Particulate Matter with a diameter less than 2.5 micrometers; PM_{10}= Particulate Matter with a diameter less than 10 micrometers; SO_2=Sulfur Dioxide; NAAQS= National Ambient Air Quality Standard; CAAQS=California Ambient Air Quality Standard; ppm=parts per million; $\mu g/m^3$= micrograms per cubic meter*

State

California Clean Air Act

The California Clean Air Act (CCAA) was adopted by CARB in 1988. The CCAA is responsible for meeting the state requirements of the Federal CAA and for establishing the CAAQS. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The CCAA, as amended in 1992, requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous 3 calendar years. As shown in Table 3.4-3, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment.

California State Implementation Plan

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 EPA. 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. The CAA mandates that the state submit and implement a SIP for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items which are included in the California SIP.

As the regional air quality management district, the MDAQMD is responsible for preparing and implementing the portion of the SIP applicable to the portion of the MDAB within its jurisdiction. The air pollution control district for each county adopts rules, regulations, and programs to attain federal and state air quality standards and appropriates money (including permit fees) to achieve these objectives.

Local

Mojave Desert Air Quality Management District

As the local air quality management agency, MDAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the MDAB is classified as being in "attainment" or "nonattainment." In areas designated as non-attainment

for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts described previously are already occurring in that area as part of the environmental baseline condition.

Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The SIPs adopted by the MDAQMD that are applicable to the Project are as follows: *Mojave Desert Planning Area Federal Particulate Matter (PM_{10}) Attainment Plan* (1995) and the *MDAQMD 70 ppb Ozone Attainment Plan (Western Mojave Desert Non-Attainment Area)* (2023) (Appendix C of this EIR).

The MDAQMD SIP for the PM_{10} NAAQS was adopted on July 31, 1995, and covers San Bernardino County excluding Searles Valley planning area and the South Coast Air Basin. The PM_{10} attainment plan provides specific control measures to reach federal attainment for PM_{10}. Measures to reduce fugitive dust emissions from construction, disturbed areas, travel on unpaved roads, and stationary sources were provided. The plan had the goal of reaching attainment of PM_{10} in 2000. The MDAQMD attainment plan for the 2008 8-hour ozone NAAQS was adopted on January 23, 2023, and covers parts of San Bernardino County and Antelope Valley within the Western Mojave Desert. The plan includes enforceable emission limits, a monitoring program, a permitting program, and contingency measures to attain the federal 2008 8-hour ozone standard. The attainment plan addresses several state and federal planning requirements and incorporates new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and meteorological air quality models. The document also demonstrated conformity with the Southern California Association of Governments' (SCAG) *2020 Regional Transportation Plan/Sustainable Communities Strategy* (2020 RTP/SCS). The document demonstrates that the MDAQMD will meet the 70 ppb 8-hour ozone NAAQS by August 2033 (Appendix C of this EIR).

Project-level significance thresholds established by local air districts set the level at which a project would cause or have a cumulatively considerable contribution to an exceedance of a federal or state ambient air quality standard. Therefore, if a project's air pollutant emissions exceed the significance thresholds, the Project could cause or contribute to the human health impacts.

To minimize potential impacts from Project emissions, MDAQMD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Rules and regulations relevant to the project include the following:

- **Rule 401 (Visible Emissions).** This rule addresses discharge of visible emissions from any single source into the atmosphere (see Appendix C of this EIR for details).
- **Rule 402 (Nuisance).** This rule prohibits the discharge from any source quantities for air containments or other materials which could cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.
- **Rule 403 (Fugitive Dust).** This rule pertains to any project or facility with a disturbance surface area of at least twenty acres; residential construction/demolition activity with a disturbed surface area of at least 10 acres; non-residential construction/demolition activity with a disturbed surface area of at least five acres; moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three consecutive days; solar projects; healthily-traveled unpaved roads; and any other project or facility where fugitive dust is visible.

In addition, the following California Code of Regulations (CCR) would be applicable to the Project:

- **Engine Idling.** In accordance with Section 2485 of CCR Title 13, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.
- **Emission Standards.** In accordance with Section 93115 of CCR Title 17, operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

San Bernardino County Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The proposed Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Specific air quality policies are addressed in the Natural Resources Element. Applicable policies are as follows:

Policy NR-1.3: Coordination on air pollution. We collaborate with air quality management districts and other local agencies to monitor and reduce major pollutants affecting the county at the emissions source.

Policy NR-1.6: Fugitive dust emissions. We coordinate with air quality management districts on requirements for dust control plans, revegetation, and soil compaction to prevent fugitive dust emissions.

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.

San Bernardino County Development Code

The Project would conform to the following San Bernardino County Development Code Sections:

- **Section 83.01.040(c)** requires construction of commercial solar energy facilities to apply applicable air quality measures to mitigate against diesel exhaust. Emission control measures that apply to all discretionary land use projects include on-road diesel vehicle regulations established by CARB and off-road diesel vehicle/equipment operation measures.
- **Section 84.29.035** requires commercial solar energy facilities to apply relevant air quality measures for controlling fugitive dust emissions. Measures may include but is not limited to: On-site vehicle speed limitations, utilizing construction methods that minimize ground disturbance, using sufficient watering to prevent excessive dust, utilizing wind barriers, and/or adhering to paving requirements for unpaved road pursuant to Chapter 83.09 of the Development Code.
- **Section 84.29.070** establishes decommissioning requirements related to air quality for closure plans and compliance with other plans, permits, and mitigation measures. Following the operational life of the Project, the Project owner shall perform site closure activities to meet federal, state, and local requirements for the rehabilitation and revegetation of the project site after decommissioning. Project decommissioning shall also be performed in accordance with plans and other reports (i.e., Water Quality Management Plan, Erosion and Sediment Control

Plan, Drainage Report, etc.) that would assure the Project would avoid significant adverse impacts.

3.4.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to air quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to air quality are considered significant if the Project would:

- conflict with or obstruct implementation of the applicable air quality plan; or
- 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 (including releasing emissions which exceed quantitative thresholds for O_3 precursors); or
- expose sensitive receptors to substantial pollutant concentrations; or
- result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

MDAQMD Significance Thresholds

Under CEQA, the MDAQMD is an expert commenting agency on air quality and related matters within its jurisdiction or impacting on its jurisdiction. In addition to the CEQA thresholds above, the MDAQMD has adopted federal attainment plans for O_3 and PM_{10}. 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.

Consistency with Air Quality Management Plan

MDAQMD's guidance states that a Project is considered non-conforming if it "…conflicts with or delays the implementation of an applicable attainment or maintenance plans." To demonstrate compliance, the Project must conform to all applicable MDAQMD rules, comply with proposed control measures that are not yet adopted from the applicable plans, and be consistent with the growth forecast from the applicable plans.

Regional Criteria Pollutant Thresholds

MDAQMD recommends quantitative regional significance thresholds for temporary construction activities and long-term Project operation in the MDAB. Projects that exceed the regional emission threshold would be considered to have a cumulatively significant impact to air quality. MDAQMD suggests the use of annual thresholds for projects exceeding one year. The annual thresholds shown in Table 3.4-4 are used to evaluate a project's potential air quality impacts.

Table 3.4-4. MDAQMD Air Quality Significance Thresholds

Pollutant	Annual Thresholds (tons per year)
CO	100
NO_x	25
VOC	25
SO_x	25
PM_{10}	15
$PM_{2.5}$	12

Source: Appendix C of this EIR

Notes: CO=carbon monoxide; NOx=nitrogen oxide; PM_{10}=particulate matter less than 10 microns in diameter; $PM_{2.5}$=particulate matter less than 2.5 microns in diameter; SOx=sulfur oxide; VOC=volatile organic compounds

Toxic Air Contaminants Thresholds

MDAQMD has developed significance thresholds for the emissions of TACs based on health risks associated with elevated exposure to such compounds. For carcinogenic compounds, cancer risk is assessed in terms of incremental excess cancer risk. A project would result in a potentially significant impact if it would generate an incremental excess cancer risk greater or equal to 10 in a million or result in a hazard index (HI) or non-cancerous value greater or equal to 1. MDAQMD has listed in their CEQA guidance criteria for when these thresholds should be used for specific land use types and their distance to sensitive receptors (MDAQMD 2020a). The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use (e.g., residences, schools, daycare centers, playgrounds, and medical facilities) must evaluate the project using the aforementioned MDAQMD TAC thresholds:

- Any industrial project within 1,000 feet;
- A distribution center (40 or more trucks per day) within 1,000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

Since the Project is a solar facility and is not categorized as one of the listed project types, evaluation of the Project's TAC emissions using the MDAQMD thresholds is not required. Therefore, no quantitative health risk assessment is necessary, and TAC emissions generated by the Project are qualitatively assessed.

Methodology

SIENNA PROJECT

Construction and operational emissions were estimated from several emissions models and associated spreadsheet calculations, depending on the source type and data availability. The primary emissions models used included CARB's on-road vehicle emission factor model (EMFAC2017) and the off-road diesel equipment emissions analysis and inventory (OFFROAD2017). Short-term and annual emissions were estimated using appropriate emission factors, the number of pieces of equipment, daily operating hours, and the associated schedules. The following construction and operational sources and activities were analyzed for emissions:

- **On-site construction equipment exhaust emissions (all criteria pollutants):** Based on EMFAC2017 and OFFROAD2017 emission factors and estimated equipment schedules.

- **On-site construction equipment fugitive dust emissions (PM_{10} and $PM_{2.5}$):** Based on USEPA AP-42 emission factors, CARB Entrained Road Travel and Paved Road Dust Miscellaneous Process Methodology, and estimated equipment schedules.
- **On-site and off-site haul truck (includes delivery, freight, and dump/water trucks) exhaust emissions (all criteria pollutants):** Based on EMFAC2017 and estimated Project trips from the Traffic Assessment prepared by GHD (Appendix L of this EIR).
- **On-site and off-site entrained fugitive dust emissions for paved and unpaved road travel**: Based on AP-42 methodology, CARB methodology, and estimated Project trips.
- **Worker vehicle emissions for trips to and from the site**: Based on EMFAC2017 and estimated Project trips.
- **Worker vehicle entrained fugitive dust emissions for paved roads**: Based on AP-42 methodology, CARB methodology, and estimated Project trips.

Construction at some of the Sienna Project parcels may occur simultaneously and phases of construction would overlap. It is assumed that construction would occur at all sites simultaneously. Construction of the Sienna Project would require approximately 12 months of continuous activity involving several overlapping phases. Due to weather and other constraints, the 12 months of construction activity may require up to 24 months to complete. However, the *Air Quality and Greenhouse Gas Study* (Appendix C of this EIR) assumes a 12-month construction schedule as a conservative analysis.

The lifetime of the Project was assumed to be 30 years and at the end of the solar facility's lifetime it was assumed to be decommissioned.

Trip generation rates for employees and vendors were provided by in the Traffic Assessment (Appendix L of this EIR). It was assumed that one-third of vendor vehicles would be medium-heavy duty trucks and two-thirds would be heavy-heavy duty trucks. Similarly, it was assumed that 76 percent of the worker commute vehicles were light-duty automobiles, and the remaining 24 percent were light-duty trucks. Percentages were derived from the distribution of vehicle miles traveled from EMFAC2017 (Appendix C of this EIR).

CALCITE SUBSTATION

According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation air quality analysis uses the California Emissions Estimator Model (CalEEMod; version 2020.4.0) software developed by CAPCOA.

Impact Analysis

Impact 3.4-1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project site is located within the MDAB and is regulated by the MDAQMD. The MDAQMD *PM_{10} 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 *PM_{10} 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;
- demonstrating Project compliance with applicable MDAQMD Rules and Regulations; and,
- demonstrating Project implementation will not increase the frequency or severity of a violation in the Federal or State ambient air quality standards.

Construction, operation, and decommissioning of the Sienna Project would result in emissions of criteria pollutants including ozone precursors, such as ROG and NO_X as well as particulate matter. MDAQMD has prepared AQMPs to achieve federal ozone standards, the most recent of which is the *MDAQMD 70 ppb Ozone Attainment Plan (Western Mojave Desert Non-Attainment Area)* (2023). In addition, the MDAQMD prepared the *Mojave Desert Planning Area Federal Particulate Matter (PM_{10}) Attainment Plan* (1995) since San Bernardino County is designated nonattainment for the federal PM_{10} standards. To be consistent with the MDAQMD air quality plans, projects must conform to all applicable MDAQMD rules, comply with proposed control measures that are not yet adopted from the applicable plans, and be consistent with the growth forecast from the applicable plans.

The Sienna Project would adhere to the MDAQMD Rule 403 (Fugitive Dust Control), in addition to complying with any applicable proposed control measures from the *Mojave Desert Planning Area Federal Particulate Matter (PM_{10}) Attainment Plan* (1995) and the MDAQMD *70 ppb Ozone Attainment Plan (Western Mojave Desert Non-Attainment Area)* (2023).

The Sienna Project would be consistent with the growth forecasts used in the applicable MDAQMD AQMP. The MDAQMD 2023 ozone AQMP used VMT provided by the SCAG's 2020 RTP/SCS, thus the projected number of employees generated by the Sienna Project were compared to the SCAG's 2020 RTP/SCS socioeconomic forecast projections of regional population, housing, and employment growth. The Sienna Project would require up to 15 on-site, full-time employees once operational. The employment growth forecasts in SCAG's 2020 RTP/SCS for Apple Valley Town, the nearest major town to the Sienna Project area, estimate that the total number of jobs would increase from 18,000 jobs in 2016 to 30,200 jobs in 2045, for an increase of 12,200 jobs (SCAG 2020). The Sienna Project would increase employment by up to 15 people (conservatively assuming that the Sienna Project would require new employees to move to the Town of Apple Valley). The increase anticipated from the Sienna Project would be within the SCAG's projected 2045 employment increase of 12,200 from 2016, and the Sienna Project would not cause the Town to exceed official regional employment projections.

As described above, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections and comparing assumed emissions in the AQMP to proposed emissions. Because the Sienna Project complies with local land use plans and population projections and would not exceed MDAQMD's regional mass daily emissions thresholds during construction and operation, the Sienna Project would not conflict with or obstruct implementation of the applicable air quality plan.

Further, as shown in Table 3.4-6 and Table 3.4-7 below, the Sienna Project would not generate criteria pollutant emissions that would exceed MDAQMD's thresholds for ozone precursors (VOC and NO_X), CO, SOx, and $PM_{2.5}$. With incorporation of water control measures pursuant to MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035, the Sienna Project would not exceed MDAQMD's threshold for PM_{10}. Thus, the Sienna Project would not have a cumulatively considerable air quality impact nor contribute to an exceedance of a federal or State ambient air quality

standard, and the Project would be consistent with the applicable MDAQMD air quality management plans. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction and operation of the proposed Calcite Substation would be consistent with regional air quality plans. With implementation of MM AQ-1a and A1-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* and provided below, the Calcite Substation would not conflict with or obstruct implementation of the applicable air quality plan and the impact would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential conflicts with applicable air quality plans. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the proposed Calcite Substation:

MM AQ-1a **Fugitive Dust Control.** Prior to the issuance of grading permits, the Applicant shall submit a Dust Control Plan to the Mojave Desert Air Quality Management District, the County, and the Commission for review and approval. The plan shall describe the fugitive dust control measures which would be implemented and monitored at all locations of proposed project construction. The plan shall comply with the mitigation measures described in the Fugitive Dust Control Rules enforced by the MDAQMD (Rule 403), San Bernardino County Development Code sections 83.01.040 and 84.29.035, as well as the existing State Implementation Plan available for PM10 and PM2.5. The plan shall be incorporated into all contracts and contract specifications for construction work and operation of onsite activities. The plan shall outline the steps to be taken to minimize fugitive dust generated by construction and operation of onsite activities by:

- Describing each active operation that may result in the generation of fugitive dust.
- Identifying all sources of fugitive dust, e.g., earthmoving, storage piles, vehicular traffic.
- Describing the control measures to be applied to each of the sources identified. The descriptions shall be sufficiently detailed to demonstrate that the best available control measures required by air districts for solar projects are used.

- Providing the following control measures, in addition to or as listed in the applicable rules, but not limited to:
    - Manage and limit disturbance of ground surfaces from vehicle traffic, excavation, grading, vegetation removal, or other activities to lower the potential for soil detachment and reduce dust transport. Maximize the use of compaction methods rather than the removal of topsoil other than in areas where excavation or grading are required. This process referred to as mow-and-roll (agricultural land) or plate-and-roll (native vegetation) lessens the level of ground disturbance and leaves the root system in place for quicker regeneration of vegetative cover.
    - Watering will occur at a minimum of three times daily on disturbed soil areas with active operations, including maintenance and access vehicular roads and parking areas, unless dust is otherwise controlled by rainfall or use of a chemical dust palliative, gravel, asphaltic pavement, or other approved dust control measure sufficient to minimize visible fugitive dust from vehicular travel and wind erosion and comply with MDAQMD Rule 403. Actions, including sweeping sealed roads, use of stabilized construction/facility entrances, and, if needed, using one or more entrance/exit vehicle tire wash apparatuses, shall be taken to prevent project-related track-out. Any project-related track-out must be cleaned within 24 hours.
    - Water conservation may be achieved by using a non-toxic chemical dust palliative or soil weighting agent. Non-water-based soil stabilizers shall be as efficient as or more efficient for fugitive dust control than Air Resources Board (ARB)-approved soil stabilizers and shall not increase any other environmental impacts, including loss of vegetation, adverse odors, or emissions of ozone precursor reactive organic gases (ROG) or volatile organic compounds (VOC).
    - Use natural vegetation to stabilize disturbed or otherwise unstable surfaces to the extent feasible.
    - All clearing, grading, earth moving, and excavation activities will cease during period of winds greater than 20 miles per hour (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 MDAQMD regulations.
    - An adequate wind barrier shall be provided where the boundary of a new commercial solar energy generation facility will be located within one-quarter mile of a primary residential structure, to reduce potentially blowing dust in the direction of the residence during construction and ongoing operation of the commercial solar energy generation facility.
    - A water truck shall be used to maintain most disturbed surfaces and to actively spread water during visible dust episodes to minimize visible fugitive dust and limit emissions to 20 percent opacity in areas where grading occurs, within the staging areas, and on any unpaved roads. For projects with exposed sand or fines deposits (and for projects that

expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel may be required to eliminate visible dust/sand from sand/fines deposit, if water application does not achieve stabilization. Other controls could include application of hydromulch (with seed for re- establishment of vegetation), application of soil binders, or the use of soil cement for particularly unstable areas.

- Minimize the idling time of diesel-powered construction equipment to 5 minutes, except in extreme heat events where workers require conditioned air to avoid health and safety issues.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- On-site vehicle speed shall be limited to 15 miles per hour.
- The following signage shall be erected not later than the commencement of construction:
  - A minimum 48-inch-high by 96-inch-wide sign containing the following information shall be located within 50 feet of each project site entrance, meeting the specified minimum text height, black text on white background, on 1-inch A/C laminated plywood board, with the lower edge between 6 and 7 feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day

    "Site Name" (4-inch text)

    "Project Name/Project Number" (4-inch text)

    IF YOU SEE DUST COMING FROM THIS PROJECT, CALL: (4-inch text)

    [Contact Name]. PHONE NUMBER: XXX-XXX-XXXX (6-inch text)

    IF YOU DO NOT RECEIVE A RESPONSE, PLEASE CALL the MDAQMD at 1-800-635-4617. (3-inch text)

- The Applicant or its designated representative shall obtain prior approval from the MDAQMD prior to any deviations from fugitive dust control measures specified in the approved Air Quality Construction Management Plan. A justification statement used to explain the technical and safety reason(s) for the substitute dust control measures required shall be submitted to the appropriate agency for review.
- The provisions of the Fugitive Dust Control Plan shall also apply to project decommissioning activities.

MM AQ-1b **Control On-Site Off-Road Equipment Emissions.** The Applicant, when entering into construction contracts or when procuring off-road equipment or vehicles for on-site construction or operation and maintenance (O&M) activities, shall ensure that only new

model year equipment or vehicles are obtained. The following measures would be included with contract or procurement specifications:

- All construction diesel engines not registered under California Air Resources Board's Statewide Portable Equipment Registration Program, with a rating of 50 hp or higher shall meet the Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, title 13, section 2423, subdivision (b)(1), unless a good faith effort demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 4 engine is not available for any off-road equipment larger than 50 hp, a Tier 3 engine shall be used or that equipment shall be equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 3 levels unless certified by the engine manufacturers that the use of such devices is not practical for specific engine types.
- All diesel-fueled engines used in the construction of the facility shall have clearly visible tags showing that the engine meets the standards of this measure.
- All equipment and trucks used in the construction or O&M of the facility shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
- All diesel heavy construction equipment shall not idle for more than 5 minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM AQ-1a and A1-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, the proposed Calcite Substation would not conflict with or obstruct implementation of the applicable air quality plan and the impact would be less than significant.

Impact 3.4-2 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 (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?

SIENNA PROJECT

Construction – Less than Significant Impact. Construction of the Sienna Project would require approximately 12 months of continuous activity involving several overlapping phases. Construction of the Sienna Project would generate air pollutant emissions from entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by construction worker daily commute trips and heavy-duty diesel haul and vendor truck trips. Construction emissions would vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for

dust and the prevailing weather conditions. Construction of the gen-tie is incorporated into the Sienna Project construction schedule and equipment mix. Therefore, emissions associated with the gen-tie are incorporated directly into the impacts associated with construction of the Sienna Project.

As shown in Table 3.4-5, all construction emissions without control measures would be below the MDAQMD annual thresholds, with the exception of PM_{10} emissions, which would exceed the MDAQMD's annual threshold of 15 tons per year by 0.6 tons. However, the Sienna Project would be required to comply with MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035 to control fugitive dust, along with San Bernardino County Development Code Section 83.01.040 to reduce exhaust emissions during construction.[1] Table 3.4-6 shows the reduced PM_{10} and $PM_{2.5}$ emissions with incorporation of water control measures pursuant to MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035. With implementation of the water control measures, the PM_{10} emissions would not exceed MDAQMD's threshold of 15 tons per year. Therefore, with adherence to MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035, all construction-related criteria pollutant emissions would not exceed the applicable MDAQMD thresholds.

Table 3.4-5. Sienna Project Annual Construction Emissions – No Control Measures

Emission Type	Source	Annual Emissions (tons per year)[2]					
		VOC	NO_x	SO_x	CO	PM_{10}	$PM_{2.5}$
2023							
Exhaust	Off-Road Construction Equipment	1.6	13.5	<0.1	14.9	0.6	0.6
	On-Road Vehicles	0.6	2.0	<0.1	8.8	0.7	0.3
Fugitive Dust[1]	Off-Road Construction Activity	--	--	--	-	5.7	0.6
	On-Road Vehicles (resuspended)	--	--	--	-	8.6	1.7
Total		**2.2**	**15.5**	**<0.1**	**23.7**	**15.6**	**3.2**
Threshold		**25**	**25**	**25**	**100**	**15**	**12**
Exceed Threshold?		**No**	**No**	**No**	**No**	**Yes**	**No**

Source: Appendix C of this EIR

Notes:

[1]Fugitive dust describes particulate matter that is emitted into the air due to earth moving activities or that has been re-suspended.

[2]Emissions by construction year are based on an estimated construction schedule and construction starting on January 1, 2023.

VOC = volatile organic compounds; NOx = nitrogen oxides; SOx = sulfur oxides; CO = carbon monoxide; PM10 = particulate matter with a diameter of 10 or less microns; PM2.5 = particulate matter with a diameter of 2.5 or less microns

Rounded values shown; columns may not add up correctly. Subtotal equals the sum of all exhaust and fugitive dust emissions from off-road construction equipment and on-road vehicles.

[1] At this time, the exhaust-related reduction cannot be determined since the reduction is dependent on fleet specific information, but adherence to the dust control measures were quantified and applied to the PM_{10} and $PM_{2.5}$ emissions.

Table 3.4-6. Sienna Project Annual Construction Emissions – With Water Control Measures

Emission Type	Source	Annual Emissions (tons per year)[2]					
		VOC	NO_x	SO_x	CO	PM_{10}	$PM_{2.5}$
2023							
Exhaust	Off-Road Construction Equipment	1.6	13.5	<0.1	14.9	0.6	0.6
	On-Road Vehicles	0.6	2.0	<0.1	8.8	0.7	0.3
Fugitive Dust[1]	Off-Road Construction Activity	--	--	--	-	3.9	0.4
	On-Road Vehicles (resuspended)	--	--	--	-	7.2	1.6
Total		**2.2**	**15.5**	**<0.1**	**23.7**	**12.4**	**2.9**
Threshold		**25**	**25**	**25**	**100**	**15**	**12**
Exceed Threshold?		**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix C of this EIR

Notes:

[1] Fugitive dust describes particulate matter that is emitted into the air due to earth moving activities or that has been re-suspended. Water control measures pursuant to MDAQMD Rule 403 and the San Bernardino County Development Code Section 84.29.035 are accounted for in the PM10 and PM2.5 emissions.

[2] Emissions by construction year are based on an estimated construction schedule and construction starting on January 1, 2023.

VOC=volatile organic compounds; NOx=nitrogen oxides; SOx=sulfur oxides; CO=carbon monoxide; PM_{10}=particulate matter with a diameter of 10 or less microns; $PM_{2.5}$=particulate matter with a diameter of 2.5 or less microns

Rounded values shown; columns may not add up correctly. Subtotal equals the sum of all exhaust and fugitive dust emissions from off-road construction equipment and on-road vehicles.

As shown in Table 3.4-5, without water control measures, the Sienna Project would exceed MDAQMD thresholds for PM_{10}. However, the Sienna Project applicant would be required to comply with MDAQMD Rule 403 and the County Development Code Section 84.29.035 and implement water control measures to reduce PM_{10} and $PM_{2.5}$ emissions. Therefore, the Project would not exceed the MDAQMD thresholds for criteria air pollutants such as VOC, NO_x, CO, SO_2, PM_{10}, O_3 and $PM_{2.5}$. Based on the evaluation above, construction of the Sienna Project would not 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. Impacts are considered less than significant.

Operation – Less than Significant Impact. As discussed previously, the Sienna Project would require up to 15 full-time employees for operations and maintenance activities. As shown in Table 3.4-7, unmitigated operational emissions from the Sienna Project would not exceed MDAQMD thresholds for any criteria pollutant. Therefore, the Sienna Project would not contribute substantially to an existing or projected air quality violation. Additionally, because criteria pollutant emissions and regional thresholds are cumulative in nature, the estimated operational emissions shown in Table 3.4-7 are representative of cumulative conditions, and the Sienna Project would not result in a cumulatively considerable net increase of criteria pollutants.

Table 3.4-7. Sienna Project Estimated Operational Emissions – No Control Measures

Emission Type	Source	Pollutant (pounds per day)					
		VOC	NO_x	SOx	CO	PM_{10}	$PM_{2.5}$
Exhaust	On-Road and On-Site Vehicles	<0.1	0.1	<0.1	0.4	<0.1	<0.1
Fugitive Dust	Maintenance Vehicles	--	--	--	--	1.0	0.1
Total (tons/year)		**<0.1**	**0.1**	**<0.1**	**0.4**	**1.0**	**0.1**
MDAQMD Threshold		25	25	25	100	15	12
Exceed Threshold?		**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix C of this EIR

Notes:

[1] Annualized at 250 working days per year

VOC=volatile organic compounds; NOx=nitrogen oxides; SOx=sulfur oxides; CO=carbon monoxide; PM_{10}=particulate matter with a diameter of 10 or less microns; $PM_{2.5}$=particulate matter with a diameter of 2.5 or less microns

Totals may not add up due to rounding. Subtotal equals the sum of all exhaust and fugitive dust emissions from on-road and on-site vehicles.

Operation of the Sienna Project as a renewable energy source would also displace criteria pollutants from fossil fuel energy production facilities. The Sienna Project would generate a maximum of 525 MW of electricity at any given time. Over the 30-year lifespan of the Sienna Project, approximately 35,240 gigawatt-hours (GWh) of electricity would be produced, which equates to 1,175GWh of electricity per year (Appendix C of this EIR). Table 3.4-8 shows the criteria pollutant emissions that would be displaced by the Sienna Project over its 30-year operational lifespan.

Table 3.4-8. Criteria Pollutant Emissions Displaced by the Sienna Project

	Emissions[1]					
	VOC	NO_x	SO_x	CO	PM_{10}	$PM_{2.5}$
Emissions Displaced Annually (tons per year)	0.4	295.9	11.2	36.0	10.8	4.5
Total Emissions Displace over Lifetime of Project (tons over 30 years)	12.6	8,877.7	337.0	1,080.2	324.4	135.4

Source: Appendix C of this EIR

Notes:

[1] This estimate only includes emissions generated by the combustion of fossil fuels and does not include operational employee trips or the emissions associated with extracting and transporting those power sources. It is also noted that this estimate only includes the displacement of emissions from the portion of the California electricity market that comes from fossil fuels (approximately 67 percent of the market) and does not include displacement of emissions from the portion of the California electricity market generated by non-combustion sources (i.e., wind, solar, nuclear, hydro-electric).

As shown in Table 3.4-8, operation of the Sienna Project would result in a net air quality benefit by displacing emissions from fossil fuel combustion. Additionally, the proposed Sienna Project would comply with the State renewable energy plans by supplying renewable energy to support existing demand and projected growth within the County. As such, operation of the Sienna Project would not 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. Impacts are considered less than significant.

Decommissioning – Less than Significant. At the end of the Sienna Project's useful life (anticipated to be 30 years), the solar facility would be repowered or decommissioned. The PV arrays and supporting equipment largely sit on the surface of the land, and removal of the arrays would not require extensive ground-disturbing activities. Any other activities required for deconstruction of the on-site

facilities would require similar types and levels of equipment as those used during the construction phase. Therefore, based on the emissions shown in Table 3.4-6, decommissioning activities would not generate emissions exceeding established MDAQMD thresholds if decommissioning occurred at all of the Sienna Project parcels simultaneously. If the parcels were to be decommissioned in a subsequent order, then emissions would be lower than those reported in Table 3.4-6. Additionally, the Sienna Project applicant would be required to develop a Decommissioning Closure Plan for review and approval by the San Bernardino County Planning and Community Development Department. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and be conducted in accordance with all applicable federal, state, and county regulations. Additionally, recommendations related to the decommissioning of utility sized solar facilities are included as a requirement of all proposed solar projects in San Bernardino County pursuant to development code 84.29.070 to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. Impacts are considered less than significant.

CALCITE SUBSTATION

Construction – Significant and Unavoidable Impact. According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction of the Calcite Substation, which includes grading, installation, and paving and testing activities, would not exceed MDAQMD thresholds for VOC, NOx, CO, and SOx. However, construction of the Calcite Substation would exceed MDAQMD thresholds for PM_{10} and $PM_{2.5}$. With implementation of MM AQ-1a and A1-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, construction emissions would continue to exceed the MDAQMD threshold for PM_{10}. Therefore, construction-phase emissions generated during construction of the Calcite Substation would contribute to a significant and unavoidable impact due to existing non-attainment conditions for ozone and PM_{10} in the air basin (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a significant and unavoidable impact associated with an exceedance of the MDAQMD threshold for PM_{10} emissions. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. However, as described in the analysis above, even with implementation of mitigation, construction emissions would continue to exceed the MDAQMD threshold for PM_{10}. This impact would be significant and unavoidable. No changes to the analysis as a result of the Sienna Project are necessary.

Operation – Less than Significant. According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the emissions generated during operation of the Calcite Substation would not exceed MDAQMD thresholds. However, MM AQ-1a and A1-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, would be implemented to further reduce emissions. This impact would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with operational emissions of the Calcite Substation. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM AQ-1a Fugitive Dust Control

MM AQ-1b Control On-Site Off-Road Equipment Emissions

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation is required.

CALCITE SUBSTATION

With implementation of MM AQ-1a and A1-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, construction emissions would continue to exceed the MDAQMD threshold for PM_{10}. Therefore, construction-phase emissions generated during construction of the Calcite Substation would contribute to a significant and unavoidable impact due to existing non-attainment conditions for ozone and PM_{10} in the air basin.

Impact 3.4-3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

SIENNA PROJECT

MDAQMD CEQA Guidance defines sensitive receptor land uses as residences, schools, daycare centers, playgrounds, and medical facilities. The sensitive receptors with the highest potential to be affected by the Sienna Project include residences surrounding the Sienna Project area. The closest single-family residence is located at the north corner of the Sherman Way and Lincoln Road intersection, immediately east of Accessor Parcel Number 0452-121-42 in the southern portion of the Sienna Project area. The nearest residential community is Lucerne Valley, which is approximately six miles southwest of the Sienna Project area.

The following describes the Sienna Project's potential impacts to sensitive receptors associated with toxic air contaminants (TACs), carbon monoxide hot spots, and Valley Fever.

TOXIC AIR CONTAMINANTS

Construction - Less than Significant Impact. The greatest potential for impacts from TACs would be related to DPM emissions associated with heavy equipment operations during construction of the Sienna Project. According to CARB methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk," which is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology (Appendix C of this EIR).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the Sienna Project would occur over approximately 12 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time.

According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period (assumed to be the approximate time that a person spends in a household). OEHHA recommends this risk be bracketed with 9-year and 70-year exposure periods. Health risk assessments should be limited to the period/duration of activities associated with the Project.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. While these siting distances are not particular to construction activities, the primary source of TAC emissions from both freeways and construction equipment is DPM. Therefore, for projects within 1,000 feet of sensitive receptors, a refined health risk should be conducted. Additionally, OEHHA states that health risk should not be done for projects that are less than 2 months (OEHHA 2015). Based on the size of the site and the scattered residences within the vicinity, there are only approximately 40 to 70 acres of the project site that are within 1,000 feet of the any of the nearest sensitive receptors. If we conservatively round that up to 100 acres, and the construction schedule is 12 months, that means that each 100-acre area would take approximately 1.5 months to complete construction activities from start to finish, assuming a 22-day work month.

Therefore, as most of the site is outside the 1,000-foot radius, and since the receptors within 1,000 feet of the residences would be exposed to construction emissions for less than 2 months, impacts to these nearby receptors from construction activities would be less than significant. Therefore, given the short duration of exposure (less than 2 months) for residences within 1,000 feet of the Project site, the low concentration of exhaust PM_{10}, and the fact that the majority of the site is greater than 1,000-feet from the nearest sensitive receptors, DPM generated by Project construction is not expected to create conditions where cancer risk would exceed the 10 in one million threshold or the non-carcinogenic Hazard Index of one for the Maximally Exposed Individual Receptor.

As such, construction of the Sienna Project would not expose sensitive receptors to substantial pollutant concentrations and a less than significant impact would occur.

Operation - Less than Significant Impact. Common operational sources of TACs include gasoline stations, dry cleaners, diesel backup generators, truck distribution centers, freeways, and other major roadways. The Sienna Project would not involve construction of gas stations, dry cleaners, highways, or roadways. In addition, the Sienna Project would not introduce a new stationary source of emissions. There would be some use of diesel-powered equipment during O&M activities, but the usage would be limited and not a continuous source of DPM. Therefore, the Sienna Project would not expose nearby sensitive receivers to substantial pollutant concentrations during operation. Impacts are considered less than significant.

CARBON MONOXIDE HOT SPOTS

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 ppm or the federal and state eight-hour standard of 9.0 ppm.

The MDAQMD does not have recommendations to address carbon monoxide hotspots. In lieu of guidance, an analysis completed by the South Coast Air Quality Management District (SCAQMD) was used instead. A detailed carbon monoxide analysis was conducted during the preparation of the SCAQMD's 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included high average daily traffic (ADT) intersections in the South Coast Air Basin, those which would be

expected to experience the highest CO concentrations. The highest CO concentration observed was at the intersection of Wilshire Boulevard and Veteran Avenue on the west side of Los Angeles near the Interstate-405. The concentration of CO at this intersection was 4.6 ppm, which is well below the state and federal standards. The Wilshire Boulevard/Veteran Avenue intersection has an ADT of approximately 100,000 vehicles per day.

Construction - Less than Significant Impact. All of the existing roadway segments in proximity to the Sienna Project have an ADT of less than 10,000 vehicles. The existing segment with the highest ADT is State Route 18 at the Lucerne Valley and State Route 246 junction with an existing ADT of 8,500 vehicles. With the Sienna Project construction traffic, the ADT on the same roadway segment would increase to 9,020 vehicles (Appendix L of this EIR). However, this increase would be temporary and cease once construction is complete. Additionally, the Sienna Project area is located in a rural flat area where air dispersion is not impeded by buildings or nearby terrain such that exist in metropolitan areas. Therefore, CO emissions generated during Project construction would disperse rapidly. Thus, the Sienna Project would not cause any nearby intersections to exceed a 100,000 ADT nor result in or substantially contribute to concentrations that exceed the one-hour or eight-hour CO standard. This is considered a less than significant impact.

Operation - Less than Significant Impact. During operation, the Sienna Project would generate approximately 64 total daily trips to account for employee, delivery, and visitor trips (Appendix L of this EIR). This quantity of daily vehicle trips could not generate CO hotspots due to the small magnitude of mobile emission sources. Additionally, the Sienna Project area is located in a rural flat area where air dispersion is not impeded by buildings or nearby terrain such that exist in metropolitan areas; therefore, CO emissions generated during Project operation would disperse rapidly. Thus, the Sienna Project would not cause any nearby intersections to exceed a 100,000 ADT nor result in or substantially contribute to concentrations that exceed the one-hour or eight-hour CO standard. This is considered a less than significant impact.

VALLEY FEVER

Less than Significant with Mitigation Incorporated. Construction activities that include ground disturbance can result in fugitive dust, which can cause fungus *Coccidioides* (CI) spores to become airborne if they are present in the soil. These spores can cause Valley Fever. Workers who disturb soil where fungal spores are found, whether by digging, operating earthmoving equipment, driving vehicles, or by working in dusty, wind-blown areas, are more likely to breathe in spores and become infected. It is not a contagious disease and secondary infections are rare. However, construction activities associated with the Sienna Project would include ground-disturbing activities that could result in an increased potential for exposure of nearby residents and on-site workers to airborne spores, if they are present. Compliance with dust control measures required by MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035 would minimize personnel and public exposure to Valley Fever and reduce the potential risk of nearby resident and on-site worker exposure. In addition, implementation of Mitigation Measure AQ-1, would further ensure worker safety through education and ensuring implementation of OSHA safety measures. Therefore, this impact would be reduced to a less than significant level.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the construction-related emissions for the proposed Calcite Substation would be short-term within the approximately 18-month construction timeframe, ensuring that no single location would be exposed to substantially increased pollutant

concentrations. The nearest sensitive receptor would be approximately 700 feet from construction activities. Implementation of MM AQ-1a and MM AQ-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR,* would reduce the potential near-field impacts caused by construction of the Calcite Substation, and with mitigation construction-phase emissions would not expose any sensitive receptors to substantial concentrations. O&M activities associated with the substation and its interconnection facilities would generate minor amounts of emissions (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential exposure of pollutants to sensitive receptors. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

VALLEY FEVER

Less than Significant with Mitigation Incorporated. According to Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction activities such as grading, excavation, and construction vehicle traffic, could stir up dust containing *Coccidioides* fungus spores, exposing workers and the public to contracting Valley Fever. Construction activities would be subject to dust control requirements (including MDAQMD Rules). Standard construction dust suppression procedures, including the use of water trucks and the application of non-toxic soil binders in construction areas, covering of temporary soil stockpiles, and maintaining roads, reduce airborne emissions of fungal spores and reduce the risk of exposure of workers and the public. In addition, gravel or surface treatments on the unpaved access roads may be required.

The risk of contracting Valley Fever in connection with construction of the proposed Calcite Substation is considered to be low due to the MDAQMD required fugitive dust control rules and standard construction dust suppression procedures. However, there is still a potential for minor amounts of dust containing *Coccidioides* fungus spores to become air born and infect construction workers and residents of adjacent properties. Implementation of MM AQ-1a as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR,* would reduce this impact to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential exposure to Valley Fever. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

AQ-1 **Valley Fever Management Plan.** Prior to ground disturbance activities, the Sienna Project 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 Sienna 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. Evidence of training shall be provided to the San Bernardino County Land Use Services Department within 24 hours of the training session.
- 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.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM AQ-1a Fugitive Dust Control

MM AQ-1b Control On-Site Off-Road Equipment Emissions

Level of Significance After Mitigation

SIENNA PROJECT

With implementation of Mitigation Measure AQ-1, potential impacts associated with Valley Fever would be reduced to a less than significant level.

CALCITE SUBSTATION

With implementation of MM AQ-1a and A1-1b as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, the Calcite Substation would not expose any sensitive receptors to substantial concentrations.

With implementation of MM AQ-1a as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR,* potential impacts associated with Valley Fever would be reduced to a less than significant level.

Impact 3.4-4 Would the Project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?

SIENNA PROJECT

Odor emissions depend on numerous factors, including: The nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely

cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

Among possible physical harms is inhalation of VOCs that cause smell sensations in humans. These odors can affect human health in four primary ways:

- The VOCs can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOCs can stimulate sensory nerves that can cause potentially harmful health effects; and,
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The construction and operation of a solar farm is not commonly associated with odors.

Construction - Less than Significant Impact. For construction activities, odors would be short-term in nature and are subject to MDAQMD Rule 402 (Nuisance). Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents and from emissions from diesel equipment.

The Sienna Project would comply with standard construction requirements which include limitations of when construction may occur. Furthermore, the Sienna 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. Additionally, the objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the Sienna Project site's boundaries. Therefore, construction of the Sienna Project would not create objectionable odors affecting a substantial number of people during construction and a less than significant impact would occur.

Operation - Less than Significant Impact. Common sources of operational odor complaints include sewage treatment plants, landfills, recycling facilities, and agricultural uses. Operation of the Sienna Project would not emit any odorous compounds. The Sienna Project would consist of the development of a solar energy facility, which does not include any components that are a known source of odors.

Based on the evaluation above, implementation of the Sienna Project would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people). Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. According to Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction and operation of the proposed Calcite Substation would not include any notable source of odors except for very small quantities of coatings that may include organic compounds. Construction odors would be minimal because of the mandatory use of ultra-low sulfur diesel fuel, and odors would not negatively affect a substantial number of people. This impact would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with odors. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

This page is intentionally blank.

3.5 Biological Resources

This section identifies the existing biological and jurisdictional resources within the Sienna Project area, analyzes potential impacts of the proposed Project on biological and jurisdictional resources, and recommends mitigation measures to avoid or reduce potential impacts of the proposed Project, where applicable. The information for this section is summarized from a *General Biological Resources Assessment* (BRA) (Appendix D1 of this EIR)*, Biological Inventory Findings Report* (Appendix D2 of this EIR), a *Jurisdictional Waters and Wetlands Delineation Report* (JDR) (Appendix E of this EIR) prepared by Rincon Consultants, Inc., and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

The BRA documents existing conditions on all parcels proposed for development of the solar energy generation facility, battery energy storage system, and along potential gen-tie corridors and assesses potential impacts to sensitive biological resources based upon proposed Project plans, consistent with the County's guidelines for BRAs. A jurisdictional delineation was conducted to determine the location and extent of resources potentially subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) and Regional Water Quality Control Board (RWQCB). Proposed impacts to potential CDFW and RWQCB jurisdictional features may be subject to the notification and permit requirements of the CDFW pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFGC) and Porter-Cologne Act for the RWQCB.

3.5.1 Existing Conditions

Environmental Setting

Sienna Project

The Sienna Project area encompasses 1,854 acres and approximately 39 miles of collector lines and gen-tie alternative routes (although not all routes would ultimately be developed). The Sienna Project area is characterized by a mixture of residential properties, undeveloped playa and desert scrub communities, and agricultural land that includes alfalfa and jojoba farms and large-scale hemp growing operations. Small-scale abandoned and operational hemp and/or marijuana growing operations were present throughout the playa region of the Sienna Project area (Appendix D1 of this EIR).

Calcite Substation

According to Section 4.3, Biological Resources, of the *Stagecoach Solar Draft EIR* (SCH No. 2020100235), the Calcite Substation site is located in the Lucerne Valley. Developed areas are located to the south and east of the Project area, including the cities of Apple Valley, Victorville, and the community of Lucerne Valley (California State Lands Commission 2021).

Vegetation Communities/Land Cover

Vegetation types in the Mojave Desert are strongly influenced by arid climatic conditions and desert soils. Vegetation in the region includes a predominance of plant morphological adaptations to extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, deep tap root systems, etc.) and saline-alkali soils (e.g., salt excretion, active transport systems, etc.). Vegetation structure is generally characterized by short-statured and widely spaced shrubs and arborescent shrubs resulting from a competition for soil water resources (Appendix D1 of

this EIR). Three vegetation types comprise 75 percent of the land cover in the Mojave Desert region: Mojave creosote bush (*Larrea tridentata*) scrub (16,398 square miles), Mojave mixed woody scrub (Joshua tree woodland; 3,646 square miles), and desert saltbush (*Atriplex* spp.) scrub (1,510 square miles). Other common vegetation types occurring in the region include desert and valley sink scrub, Mojave Desert wash scrub, and Mojave mixed steppe. The primary disturbed or nonnative vegetation/land cover types within the Mojave Desert include annual grasslands, agricultural lands, and developed areas (Appendix D1 of this EIR).

Desert-adapted plant species often show low resilience to disturbance, typically requiring long periods to recover. Often, full recovery to a natural community fails and the community follows successional pathways towards alternative stable states dominated by invasive species. Portions of the Mojave Desert that were at one time cleared for agriculture or other development currently consists of moderate to highly degraded conditions, and often contain a high proportion of associated invasive, nonnative species (Appendix D1 of this EIR).

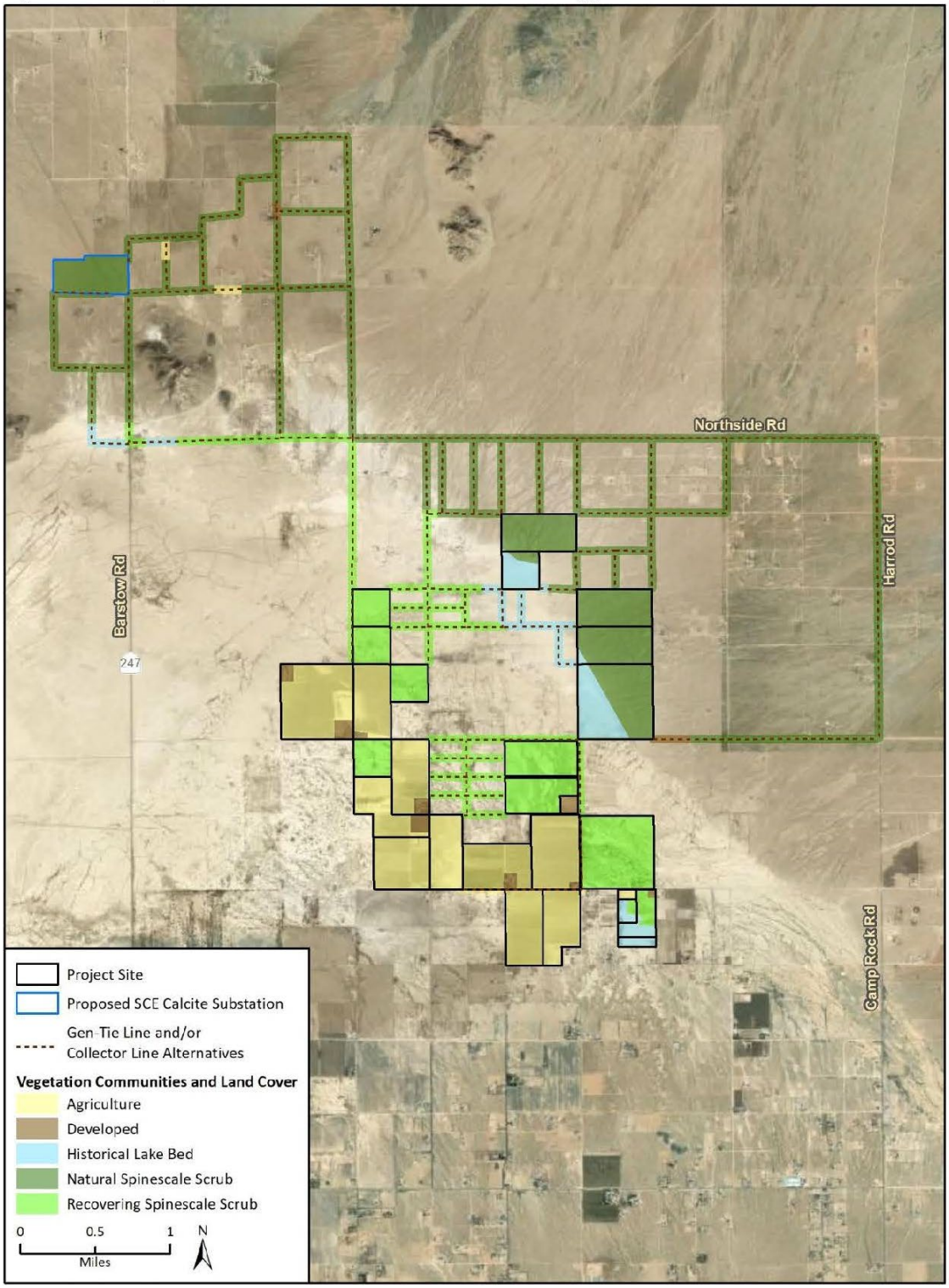
Sienna Project

One natural vegetation community was identified during the biological reconnaissance survey of the Sienna Project area: Spinescale scrub (*Atriplex spinifera* Shrubland Alliance). This vegetation community consists of natural spinescale scrub outside of the historic limits of the dry lake, and areas of recovering spinescale scrub located within the historical lakebed. Three additional land cover types (historical lakebed, developed, and agriculture) that did not meet the membership rules for classification as one of the recognized vegetation types in the *Manual of California Vegetation, Second Edition* were also identified and mapped within the Sienna Project area (Figure 3.5-1). Brief descriptions of the natural vegetation community and the other land cover types present in the Sienna Project area are provided below. Mapping of vegetation communities and land cover along the gen-tie and collector line alternative routes was completed at a course scale and shows the dominant land cover within the 300-foot corridor. Acreages of land cover types along these alternative routes have not been included in the project acreage tallies listed below.

SPINESCALE SCRUB (ATRIPLEX SPINIFERA SHRUBLAND ALLIANCE)

Spinescale scrub is found throughout portions of the Sienna Project area (Figure 3.5-1). Associated shrub species include burrobush (*Ambrosia salsola*), allscale saltbush (*Atriplex polycarpa*), California jointfir (*Ephedra californica*), alkali heath (*Frankenia salina*), San Joaquin snakeweed (*Gutierrezia californica*), alkali goldenbush (*Isocoma acradenia*), and budsage (*Picrothamnus desertorum*). Within the Sienna Project area, this vegetation community was often interspersed with varying amounts of creosote bush (*Larrea tridentata*). This vegetation community is often found on alluvial fans and old lake beds. Within the Sienna Project area, the spinescale scrub vegetation community can be divided into two distinct types: Natural spinescale scrub and recovering spinescale scrub.

Figure 3.5-1. Vegetation Communities and Land Cover Types



Source: Appendix D1 of this EIR

** The Stagecoach Solar Project Draft EIR identifies the following vegetation communities within the Calcite Substation area: Allscale scrub and Creosote bush-white burrsage scrub. The vegetation communities identified within the Calcite Substation area in the Stagecoach Solar Project Draft EIR will be relied upon in this EIR.*

Natural Spinescale Scrub. The natural spinescale scrub vegetation community comprises approximately 345 acres in the northern and eastern parts of the Sienna Project area (Figure 3.5-1). The natural spinescale scrub vegetation community generally consists of a dense shrub canopy layer and moderate levels of vegetation diversity.

Recovering Spinescale Scrub. As shown in Figure 3.5-1, the remaining spinescale scrub vegetation comprises 471 acres of the Sienna Project area and is located within the historical lakebed throughout the central and southern portions of the Sienna Project area. The recovering spinescale scrub displays varying levels of disturbance and is characterized by a sparse shrub canopy layer, signs of human disturbance, and clay-dominated soils. Overall, this vegetation community is low quality due to high levels of disturbance and low vegetation diversity.

HISTORICAL LAKEBED

This land cover type consists of the dry bed of Lucerne Lake, which is largely unvegetated. Soils are very alkaline due to repeated inundation and evaporation events. What little vegetation is present is concentrated within cracks in the soils and low points where water is present for longer durations. Common species include bush seepweed and spinescale scrub. Historical lakebed comprises approximately 132 acres of the Sienna Project area.

DEVELOPED

This type of land use typically does not contain naturally occurring vegetation communities and is typically graded, and in many cases is bordered by ruderal vegetation. These areas tend to have high levels of disturbance immediately adjacent to structures. Within the Sienna Project area, developed areas consist of roadways, cleared areas, pull-outs, road shoulders, and residential development. Approximately 54 acres of developed land and 0.5-mile of paved roads are within the Sienna Project area.

AGRICULTURE

This type of land use is occupied by agricultural development. Within the Sienna Project area, agricultural areas include fallow fields and land currently being maintained for agricultural purposes. Approximately 853 acres of agricultural lands are present within the Sienna Project area.

Calcite Substation

According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), vegetation within the Calcite Substation area includes Allscale scrub and Creosote bush-white burrsage scrub.

Special-Status Species

Sienna Project

LITERATURE REVIEW

Rincon Consultants, Inc. conducted literature review of several relevant databases that provide information about occurrences of special-status biological resources, including:

- CDFW's California Natural Diversity Database (CNDDB);
- CDFW's Biogeographic Information and Observation System (BIOS);

- U.S. Fish and Wildlife Service's (USFWS) Critical Habitat Mapper;
- USFWS' Information for Planning and Consultation (IPaC) query;
- USFWS' National Wetlands Inventory (NWI);
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service's (NRCS) Web Soil Survey;
- Calflora's What Grows Here; and,
- California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California.

The Sienna Project area is located within the boundaries of the Desert Renewable Energy Conservation Plan (DRECP), a joint collaboration between the California Energy Commission, BLM, USFWS, and CDFW. In preparation of the DRECP, habitat models were developed to assess impacts to listed species and inform Project planning and Project alternatives where there is a lack of adequate data on species distribution. The DRECP is currently only implemented on BLM lands. However, the habitat suitability and range models can provide valuable information on the predicted distribution of listed species within the Sienna Project area.

Rincon biologists conducted a search and review of the CNDDB for recorded occurrences of special-status plant taxa (species, varieties, and subspecies) and wildlife species prior to conducting field surveys. The CNDDB is based on recorded occurrences of special-status taxa and does not constitute an exhaustive inventory of biological resources for any given area. The list of potentially occurring special-status plants and animals was developed based on the 5-mile radius CNDDB search area and included regional habitat and vegetation diversity and was supplemented by other data and expert knowledge of Rincon biologists. Other data included database search results from the CNPS online Inventory of Rare and Endangered Plants of California for the *White Horse Mountain, Grand View Mine* and *Lucerne Valley*, California USGS 7.5-minute quadrangles (quad), and the ten surrounding quads, and results of a query of the USFWS website for Federally listed species occurring in San Bernardino County (Appendix D1 of this EIR).

A list of special-status plants species that have the potential to occur on the Sienna Project area and adjacent areas was compiled using the database searches conducted during the literature review. For the purposes of this EIR, special status plant taxa are those that are: 1) listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the Federal Endangered Species Act (FESA); 2) listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA), and/or; 3) CNPS California Rare Plant Rank (CRPR) 1B and 2.

The list of special-status plants was cross-referenced with the CDFW *Special Vascular Plants, Bryophytes, and Lichens List* to verify rarity status for each special status plant with potential to occur on-site. Habitat requirements and flowering periods for special status plant taxa were obtained from the CNPS online *Inventory of Rare and Endangered Plants of California, The Jepson Desert Manual, The Jepson Manual, Second edition*, and the *Calflora Online Species Database*. Based on the information contained within these databases and inventories, an evaluation of the potential for occurrence within the Sienna Project area based upon each species' local distribution and habitat requirements (e.g., vegetation community type, soil type, elevation above mean sea level, etc.) was conducted (Appendix D1 of this EIR).

BIOLOGICAL RECONNAISSANCE SURVEY

Field reconnaissance surveys of the Sienna Project area were conducted on July 20, 21, and 22, 2021. Because the Sienna Project covers a large area, surveys were conducted on three consecutive days. Habitats on-site were mapped at a general level of scale. The surveys focused on documenting existing conditions and biological resources, evaluating the Sienna Project area for potential to support special-status plant and wildlife species, and identifying special-status vegetation communities and potentially jurisdictional resources.

Prior to conducting the reconnaissance survey, Rincon biologists reviewed aerial photographs and database search results for special-status species records in the vicinity of the Sienna Project. The reconnaissance surveys consisted of a combination of vehicular surveys and pedestrian transects. Vehicular “windshield” surveys were conducted along gen-tie routes and in areas where vegetation cover and diversity were low. Pedestrian transects were conducted in areas containing higher vegetation diversity and cover, allowing biologists to ground-truth preliminary mapped vegetation communities and identify approximate community boundaries within natural areas. Additionally, biologists evaluated the general health and level of existing disturbances of the vegetation communities and evaluated the various habitats for their ability to support special status species. Biologists documented any sign of the presence of special status species within the proposed Project boundary and visually evaluated the entire Sienna Project area and all alternative gen-tie corridors. Results of the surveys were used to identify suitable habitat for special-status species that may require focused protocol surveys or other more involved analyses and to develop a research approach for evaluating existing biological resources in the Sienna Project area. Additionally, representative photographs were taken to document vegetation communities, species sign, or other notable biological resources observations.

FOCUSED PROTOCOL SURVEYS

Species protocol surveys were conducted from April 5 through May 12, 2022. Surveys conducted were focused on the Mojave desert tortoise, sensitive plants, and a 100 percent inventory of all botanical species, including California Desert Native Plant Act (CDNPA) species occurring within the Sienna Project Area. In addition, all wildlife species observed as a matter of standard protocol were recorded (Appendix D2 of this EIR).

SENSITIVE BIOLOGICAL RESOURCES

Local, State, and federal agencies regulate special-status species and require an assessment of their presence or potential presence to be conducted on-site prior to the approval of any proposed development on a property. This section discusses sensitive biological resources observed on the Sienna Project area and evaluates the potential for the Project area to support other sensitive biological resources. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, and previous reports for the Sienna Project area. The potential for each special-status species to occur in the solar facility development, the substation parcels, and portions of the gen-tie alternatives with natural scrub habitat was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

SPECIAL-STATUS PLANT SPECIES

Based on the literature review, 72 special-status plant species have been documented in the vicinity of the Sienna Project area and surrounding quadrangles. Sixty-four of these species were eliminated from the analysis due to a lack of habitat or soil requirements and/or known distribution and elevation ranges. Most of these species are known to occur in the San Bernardino Mountains and foothills to the south of the Sienna Project area, but do not occur within the Project area or within Lucerne Valley. Seven species have a low to moderate potential to occur in the natural scrub communities present on the Sienna Project area and have a CRPR ranking of 1B.1 to 2B.2. None are Federally or State-listed. This list of species consists primarily of annual herbs known to occur in Mojavean desert scrub and playa habitats.

One species has been assessed as having a moderate potential to occur within the Sienna Project area:

- Parish's phacelia (*Phacelia parishii*).

Six species have been assessed as having a low potential to occur within the Sienna Project area:

- Parish's brittlescale (*Atriplex parishii*);
- alkali mariposa lily (*Calochortus striatus*);
- purple-nerve cymopterus (*Cymopterus multinervatus*);
- Parish's popcornflower (*Plagiobothrys parishii*);
- thorny milkwort (*Polygala acanthoclada*); and,
- California alkali grass (*Puccinellia simplex*).

Of these species, four have the potential to occur within the natural and recovering spinescale scrub habitats on site:

- Parish's brittlescale;
- alkali mariposa lily;
- thorny milkwort; and,
- California alkali grass.

Purple-nerve cymopterus has the potential to occur within the easternmost parcels outside of the dry lakebed, particularly within areas of higher creosote concentration. Due to alkali soil requirements, Parish's phacelia has the potential to occur within the dry lakebed and recovering spinescale habitats (see Figure 3.5-4). Parish's popcornflower occur in very mesic sites, therefore, would only be found in very wet areas of the Sienna Project area.

No special-status plants were observed during the reconnaissance surveys or the botanical surveys (Appendix D1 and D2 of this EIR).

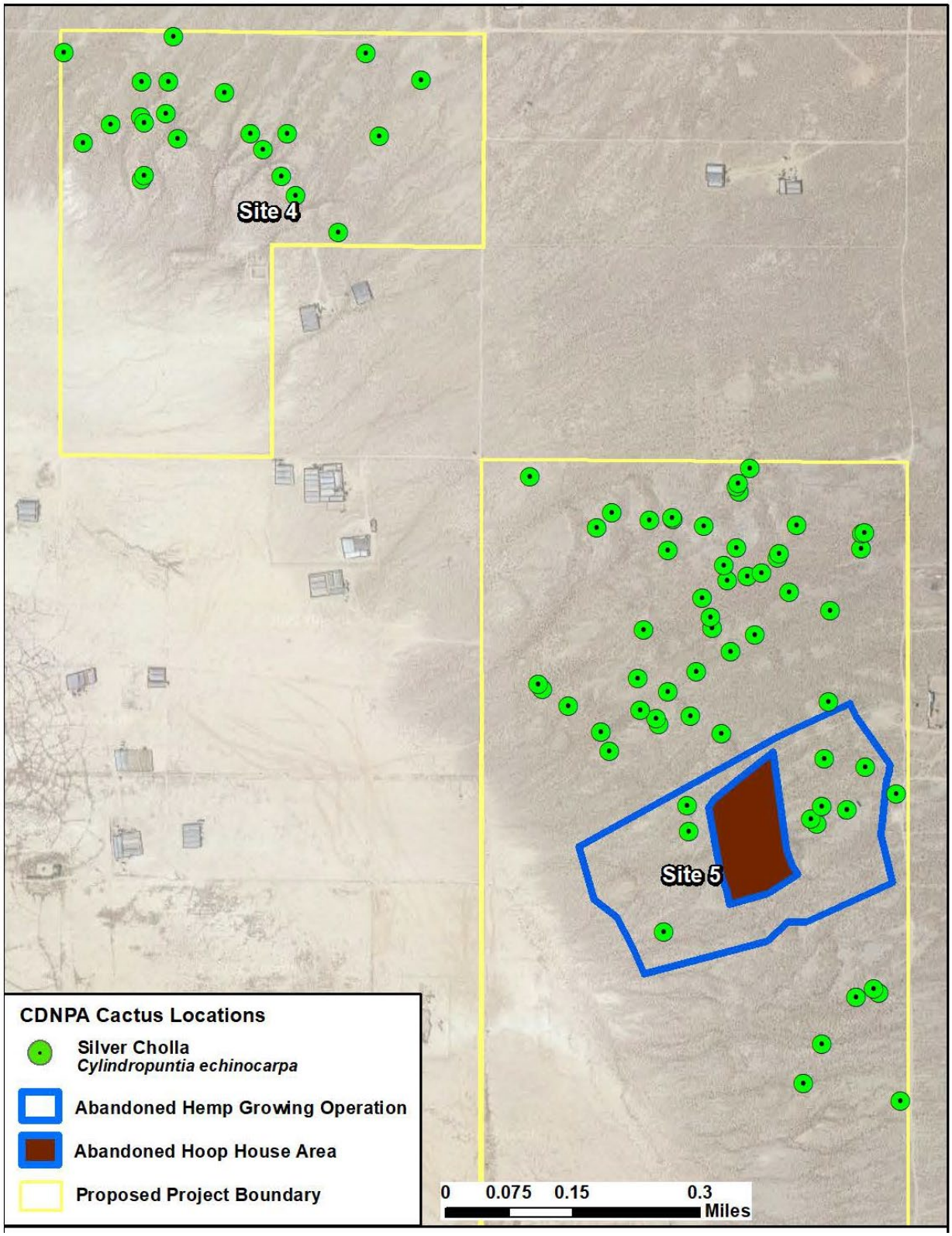
CALIFORNIA DESERT NATIVE PLANTS ACT

In addition, taxa protected under the California Desert Native Plants Act (CDNPA) (Division 23 of the California Food and Agricultural Code, Section 80071-80075) (California Food and Agricultural Code 2005) were also considered.

The only CDNPA plant species found to occur in the Sienna Project Area was silver cholla (*Cylindropuntia echinocarpa*). This species was observed only in the northern (APN 0452-391-08) and eastern portion (APNs 0452-361-46, -47, and 0452-371-01) of the Sienna Project area (Figure 3.5-2). A total of 22 cacti were tallied in the northern (APN 0452-391-08) and 61 in the eastern portion (APNs 0452-361-46, -47, and 0452-371-01) of the Sienna Project area for a total tally of 83 silver cholla.

No yucca, smoke tree, mesquite, beargrass, agave, desert lilies or additional species of cactus were found within the Sienna Project Area and no cactus over three feet were documented within the Sienna Project Area (Appendix D2 of this EIR).

Figure 3.5-2. Silver Cholla Location Map



Source: Appendix D2 of this EIR

Wildlife Species

A total of 11 special-status wildlife species were evaluated for their potential to occur within the Sienna Project area. Species are considered to have special-status based on a State and/or federal listing, or because they are considered a California Species of Special Concern (SSC) or are protected by CDFW. Three special-status wildlife species were observed directly or by sign during the reconnaissance surveys. These species are:

- burrowing owl (*Athene cunicularia*), SSC
- prairie falcon (*Falco mexicanus*), CDFW Watch List (WL)
- loggerhead shrike (*Lanius ludovicianus*), SSC

Four species have been assessed as having a moderate to high potential to occur within the Sienna Project area:

- desert tortoise (*Gopherus agassizii*), Federally Threatened, State Threatened
- golden eagle (*Aquila chrysaetos*), Fully Protected
- Bendire's thrasher (*Toxostoma bendirei*), SSC
- Le Conte's thrasher (*Toxostoma lecontei*), SSC.

Two species have been assessed as having low potential to occur within the Sienna Project area: Western mastiff bat (*Eumops perotis californicus*) and California condor (*Gymnogyps californianus*).

Two species have been assessed as not expected to occur within the Sienna Project area: Silver-haired bat (*Lasionycteris noctivagans*) and Mohave ground squirrel (*Xerospermophilus mohavensis*). These species are not expected to occur within the Sienna Project area based on the absence of records within Lucerne Valley, lack of suitable habitat on site, and the location of the Sienna Project is outside of the known range of the species.

Special-status species with a moderate to high potential to occur within or adjacent to the Sienna Project area are described in detail below. Mohave ground squirrel, mountain lions (though not expected), and American badgers are also discussed given their regional significance. Figure 3.5-4 displays special-status species habitat within the Sienna Project site.

DESERT TORTOISE

The desert tortoise is federally- and State-listed as threatened. Therefore, potential impacts to the species require incidental take permits from both the USFWS and CDFW.

The northern and eastern portions in the Sienna Project area (Figure 3.5-4) contains approximately 345 acres of suitable habitat for desert tortoise where relatively undisturbed natural desert scrub communities are present. The remaining spinescale scrub communities within the Sienna Project area are not suitable for desert tortoise. The areas of recovering spinescale and the historic lakebed exhibit high levels of human disturbance and low vegetation diversity, and do not provide the critical habitat components necessary to support desert tortoise occupation (Appendix D1 of this EIR).

CNDDB records show Mojave desert tortoise records two miles to the east of the Sienna Project Area in more typical habitat. No CNDDB records exist in within the Sienna Project Area and the "Mojave desert tortoise Predicted Habitat Map" shows the entire Sienna Project Area and nearby vicinity as "Low" (Appendix D2 of this EIR).

Focused Survey Results. Surveys were conducted pursuant to the USFWS' protocols for surveying Mojave desert tortoise within identified desert tortoise habitat. No Mojave desert tortoise or sign were observed within the Sienna Project area during the surveys (Appendix D2 of this EIR).

BURROWING OWL

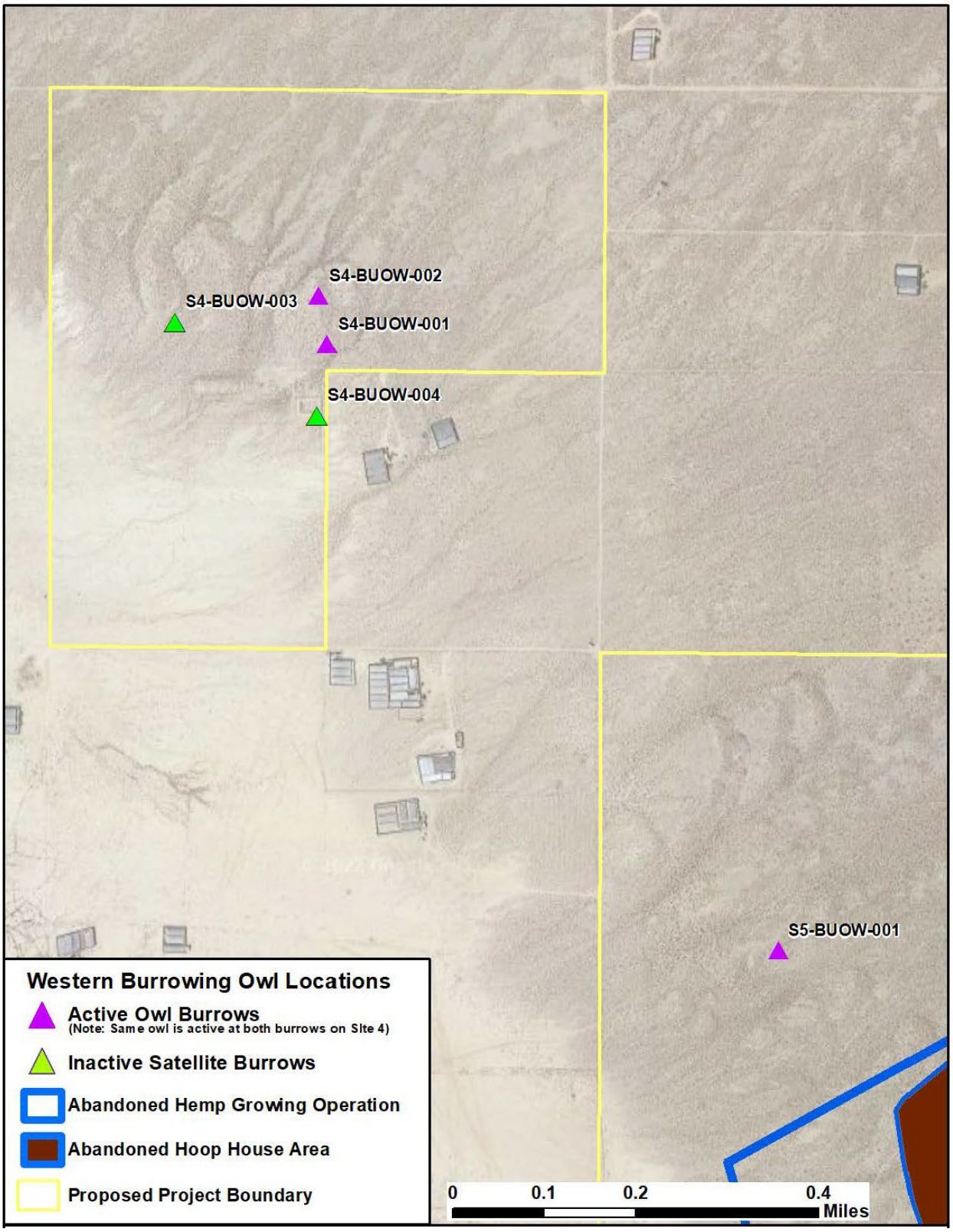
Two burrowing owls were flushed from an active burrow located within a drainage pipe during the reconnaissance surveys in the southwestern portion of the Sienna Project area (Appendix D1 and D2 of this EIR). The CNDDB includes four records of burrowing owl within 5 miles of the Sienna Project area.

Portions of the Sienna Project area and adjacent areas with low density scrub cover include potentially suitable foraging habitat for the species and burrows suitable for occupation by burrowing owls. Based on the CNDDB occurrences, presence of suitable habitat, and the siting of two individual burrowing owls and an active burrow, the species is considered present within the Sienna Project area and may occur for wintering or breeding throughout the Sienna Project area, wherever suitable burrows occur.

Focused Survey Results. As shown in Figure 3.5-3, two burrowing owls were observed during the surveys: One on the northern portion of the Sienna Project area (APN 0452-391-08) and one on the eastern portion of the Sienna Project area (APN 0452-361-46). No pairs were observed and the sex of the owls at either location was not determined. The owl at the northern portion of the Sienna Project area had two additional satellite burrows for a total of three burrows potentially being used by this owl. A return visit on May 10, 2022, showed that the owl on the northern portion of the Sienna Project area had moved from its original location about 240 feet north to a satellite burrow. Here the owl had decorated the burrowing opening with canine scat. Another inactive burrow was identified at the south edge of an old dry water catchment that had been bermed in the past. There was no sign of recent use and only old pellets and some bits of whitewash.

No satellite burrows were observed for the owl at the eastern portion of the Sienna Project area. All of the active burrows used by burrowing owls were inactive kit fox natal dens. There is moderate potential to use and nest on all sites within the Sienna Project Area.

Figure 3.5-3. Western Burrowing Owl Location Map



Source: Appendix D2 of this EIR

LE CONTE'S THRASHER

The CNDDB includes four records of Le Conte's thrasher within 5 miles of the Sienna Project area. Based on the presence of suitable foraging and nesting habitat, the species was determined to have a high potential to nest within suitable natural scrub habitat throughout the Sienna Project area. Suitable nesting habitat for Le Conte's thrasher is limited to the relatively undisturbed scrub habitat to the east and north of the historical dry lake margins (Appendix D1 of this EIR).

Focused Survey Results. Three individuals were observed in the central portion of the Sienna Project area on April 9, 2022. However, during a return visit early the next morning they were not observed again and were likely transients. No Le Conte's thrashers were observed at any other location though suitable habitat exists within the Sienna Project vicinity including any project area that is not actively being farmed (Appendix D2 of this EIR).

GOLDEN EAGLE

No golden eagles were observed site during surveys. However, the CNDDB contains 11 occurrences within 5 miles of the Sienna Project area, the closest is from a nest on a cliff 1.03 miles west of the site. Transmission line towers occur adjacent to the Sienna Project area and within the northwestern portion of the site. Research was conducted in 2012 to assess golden eagle home range size in the DRECP plan Area. A nest was located east of White Horse Mountain and an eagle was tracked using radio telemetry. The nest site was located in the core home range that extended to the northeastern edge of Lucerne Lake.

Desert scrub within the Sienna Project area provides suitable foraging habitat for this species. Based on the absence of suitable nesting habitat within the Sienna Project, there is no potential for the species to nest on site. However, this species has a moderate potential to forage within undeveloped portions of the Sienna Project area.

PRAIRIE FALCON

The CNDDB contains five occurrences of prairie falcon within 5 miles of the Sienna Project area. Suitable foraging habitat occurs within the Sienna Project area, and suitable nesting habitat occurs in the mountains to the west of the Sienna Project area. In addition, an individual prairie falcon was observed flying over an active agricultural area in the southern portion of the Sienna Project area during the July 2021 reconnaissance surveys. Therefore, there is a high potential for this species to forage within the Sienna Project area, but there is a low potential for this species to nest on site.

LOGGERHEAD SHRIKE

No CNDDB records for loggerhead shrike exist in or near the Sienna Project Area. Suitable nesting habitat (predominantly in desert scrub, but anywhere with shrub heights of 1 to 2 meters or more) is present in the Sienna Project area. Based on presence of potential nesting and foraging habitat and nearby observations, the species is considered to have high potential to nest within the suitable scrub habitat within the Sienna Project area (Appendix D1 of this EIR).

Focused Survey Results. One individual was observed foraging near the intersection of Cambria Road and Midway Road on April 10, 2022.

BENDIRE'S THRASHER

There are two CNDDB records within 5 miles of the Sienna Project area. The site is also within the DRECP modeled range, and suitable nesting habitat is present in portions of the Sienna Project and

within a 500-foot buffer. The species may use the spinescale scrub vegetation community in the Sienna Project area for nesting and foraging. Therefore, there is moderate potential for this species to occur in the Sienna Project area.

DESERT KIT FOX

Desert kit fox occurrences are not currently maintained by the CNDDB. However, the species was recently observed in the Lucerne Valley, and the Sienna Project area includes suitable habitat for the species. The species has a high potential to den within the natural scrub habitat areas of the Project area, and, and as such, the species may also occur transiently (during dispersal and foraging) over the disturbed areas of the Sienna Project area (Appendix D1 of this EIR).

Focused Survey Results. No desert kit foxes were observed during field surveys (though nighttime surveys were not conducted), and, although the extensive presence of feral and domestic canines in the area makes this habitat marginal at best, there is a low potential for occurrence of desert kit fox onsite (Appendix D2 of this EIR).

AMERICAN BADGER

There are no CNDDB records for American badger within or near the Sienna Project area. However, modeling uploaded to Data Basin indicates this area as probably occupied.

Focused Survey Results. No individuals were observed and no sign was found to indicate that badgers are currently using the Sienna Project area. Once again, this may be due to the extensive presence of feral and roaming domestic canines. Despite the lack of sign and the roaming canines, there is habitat and the area is within the range of American badgers, therefore, American badgers have a low potential to occur within the Sienna Project Area (Appendix D2 of this EIR).

MOHAVE GROUND SQUIRREL

The historic range of the Mohave ground squirrel extends to the southwest of Lucerne Valley but does not include Lucerne Valley. The closest CNDDB occurrence is within 5 miles of the Sienna Project area. However, this occurrence was recorded in 1886 (Appendix D1 of this EIR).

According to the most recent Five-Year Status review, between 2008 and 2012, protocol trapping and camera surveys were conducted at 27 locations between Barstow and Lucerne Valley, and no Mojave ground squirrel were found. Additionally, no Mojave ground squirrel have been reported east of the Mojave River since 1977, and it may be extirpated from this region (Appendix D1 of this EIR).

Based on all available information, the Mohave ground squirrel is not expected to occur in the Sienna Project area. The Sienna Project area is located outside of the known historical range of the species, and there are no recent occurrences of the species in the vicinity of the Project area (Appendix D1 of this EIR).

MOUNTAIN LION

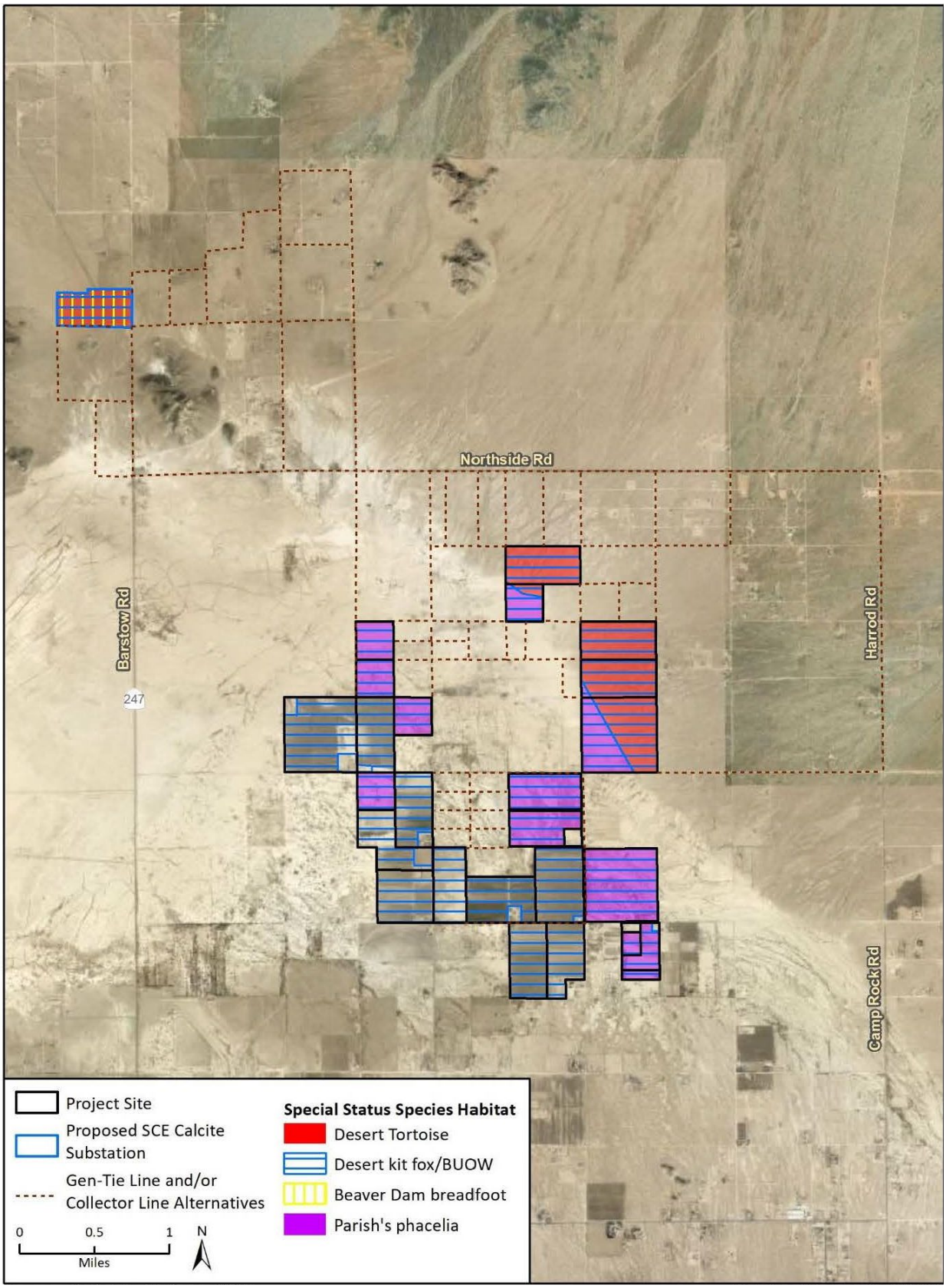
The Fish and Game Commission received a petition on June 25, 2019, to list an evolutionarily significant unit (ESU), comprised of six populations of mountain lion in southern and central coastal California, as threatened or endangered under the CESA. The Fish and Game Commission's determination on the status of the species was due November 3, 2021. During the time this EIR was written, the Fish and Game Commission has yet to make a determination on the status of the species. Until the determination is made, the mountain lion is granted "candidate" status, and receives protection as though it were listed. Mountain lions require large areas of relatively undisturbed habitats

with adequate connectivity. They have large home ranges that include heterogenous habitats that often consist of pine forests, riparian and oak woodlands, streams, chaparral, and grasslands, though they are also known to occur in desert habitats. Suitable habitat for this species is present within the Sienna Project area as all sites are located within open desert habitat within the species' range and may be subject to transient travel by mountain lions in the regional vicinity.

NESTING BIRDS

The Sienna Project area contains suitable nesting habitat for a variety of native avian species common to the desert, including black-throated sparrow (*Amphispiza bilineata*), horned lark, northern mockingbird (*Mimus polyglottos*), and cactus wren (*Campylorhynchus brunneicapillus*). Native bird nests are protected by CFGC Section 3503 and the Migratory Bird Treaty Act (MBTA). The nesting season generally extends from February through July in the Mojave Desert, but can vary based upon annual climatic conditions.

Figure 3.5-4. Special-Status Species Habitat



Source: Appendix D1 of this EIR

Calcite Substation

Special-Status Species

PLANTS

According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), no State or federally listed plant species have the potential to occur in the Calcite Substation area. Special-status plant species present or potentially occurring with at least moderate probability are presented in the following list (California State Lands Commission 2021):

Two species have been assessed as present within the Calcite Substation area:

- Borrego milk-vetch (*Astragalus lentiginosus var. Borreganus*, CRPR 4.3)
- Beaver Indian breadroot (*Pediomelum castoreum*, CRPR 1B.2)

One species was assessed with moderate potential to occur within the Calcite Substation area:

- Mojave monkeyflower (CRPR 1B.2)

Four species have been assessed to not occur within the Calcite Substation area, but are high in suitable habitat:

- White pygmy-poppy (CPRP 4.2)
- Clokey's cryptantha (CRPR 1B.2)
- Purple-nerve cymopterus (CRPR 2B.2)
- Parish's popcornflower (CRPR 1B.1)

WILDLIFE

Two species were assessed as present with suitable habitat present throughout the Calcite Substation area:

- Desert tortoise (FT, CT)
- Burrowing owl (CCSC)

Two species were assessed to have high potential for occurring within the Calcite Substation area:

- Loggerhead shrike (CCSC)
- Le Conte's thrasher (CCSC)

Two species were assessed to have high potential for occurring within the Calcite Substation area due to foraging:

- Prairie falcon (CCSC)
- Golden eagle (CCSC)

One species was assessed to have a moderate potential for occurring within the Calcite Substation area:

- Bendire's thrasher (CCSC)

Sensitive Plant Communities and Critical Habitats

Sienna Project

No sensitive natural communities have been recorded in the Sienna Project area and none were observed during the surveys (Appendix D1 and D2 of this EIR). No federally-designated critical habitats occur within the Sienna Project area.

Calcite Substation

According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), no sensitive vegetation communities were mapped within the Calcite Substation facilities area. There is no USFWS designated critical habitat within the Calcite Substation area. The nearest critical habitat is for desert tortoise, located within 5 miles east of the Calcite Substation in the Ord-Rodman Unit, east of SR 247 (California State Lands Commission 2021).

Aquatic Resources

Sienna Project

LITERATURE REVIEW

Pre-field investigations generally consisted of reviewing existing background literature, data, and information to identify areas of potential CDFW and RWQCB jurisdiction and prepare for delineation field surveys.

FIELD SURVEY

After completing the initial literature review, a reconnaissance-level field survey was conducted on July 20 through July 22, 2021, to determine the general presence and locations of ephemeral streams and isolated wetlands potentially under CDFW and RWQCB jurisdiction onsite of the Sienna Project.

The locations of potential jurisdictional features were imported into a global positioning system (GPS)-enabled tablet displayed over high resolution aerial imagery to allow for evaluation of those features in the field. These features, and any other potential jurisdictional features that were encountered during the survey, were examined for the presence of defined channels with characteristic bed and bank features and indicators of water flow. Potential jurisdictional streams were mapped on recent aerial imagery. The landforms, vegetation, hydrology, and soil conditions were noted where these characteristics were relevant to identification of the feature. A handheld GPS unit with sub-meter horizontal accuracy was also used to record locations and collect general data, and to guide digitization of features with a geographic information system (GIS) software package.

HYDROLOGY

The Sienna Project site is located within the central portion of the Lucerne Lake watershed, Hydrologic Unit Code (HUC) 181001000404. It is located within the Este hydrologic groundwater sub-basin, a hydrologic subarea of the Mojave Groundwater Basin which contains two primary groundwater basins separated by a fault. The groundwater below the site is stored in an aquifer within the Lucerne Valley Groundwater Basin (LVGB). The northern portion of the site extends slightly outside of the LVGB. Water is provided to the residents of Lucerne Valley from groundwater pumping (Appendix E of this EIR).

The majority of the Sienna Project site is mostly level and slope gradients across the site are extremely low. Thirty-nine small, shallow, ephemeral streams drain generally to the west and southwest in the direction of the dry lakebed. The streams convey water flows only during and immediately after high precipitation events. Hydromodification, primarily from roads, has fragmented stream flow in areas north and west of the dry lakebed. Road maintenance activities include clearing and blading which create large soil berms on each side of the roads, which blocks flow in most of the drainages at the road edge. Additionally, off-highway vehicle (OHV) tracks interrupt the flow of small shallow channels.

Climate data for the Lucerne Valley obtained from four sources, including the Western Regional Climate Center, WeatherBase, Climate-Data, and Intellicast, indicate that average annual rainfall in the vicinity is approximately 6.04 inches.

LUCERNE DRY LAKE

The majority of the Sienna Project area consists of Lucerne Dry Lake. The Lucerne Dry Lake is a large Pleistocene lakebed, approximately 3 km by 7 km in size. It is now typically dry in most years and only collects water in its lowest points during extreme precipitation events.

Visual evidence of previous inundation and/or saturation (e.g., cracked soils, salt crusts) was observed in the dry lakebed during the field surveys. However, these features are not indicative of the lake's present hydrology. Indicators such as cracked soils can occur readily as the result of repeated intervals of short-term wetting and drying of areas dominated almost entirely by clay soils. Salt crusts often form on the surface in dry desert conditions where salts are abundant in the soils and precipitate out onto the soil surface when sporadic rainfall quickly evaporates.

In the vicinity of the Sienna Project site, no large tributaries directly enter the dry lake from adjacent areas. Small, shallow ephemeral streams originate in the Granite Mountains, Whitehorse Mountain, and near Peterman Hill to the northwest and north of the site, but due to significant hydromodification, primarily from road construction and maintenance, the infrequent, low-volume, short-duration surface flow in these features does not reach the dry lakebed. A main utility access road and other minor roads are present along the north and west sides of the dry lakebed. During regular road maintenance, large berms of dirt up to 3 feet high are formed on each side of the roads as a result of clearing and blading. Overall, these berms completely block or severely restrict ephemeral stream flows south and east of the roads toward the lake. Some streams do flow across the roads and continue toward the lake. As the slope gradient nears zero in areas adjacent to the dry lakebed, any infrequent, low-volume, short-duration water flows in these very small and shallow streams disperse, dissipate, and percolate into the mostly level ground before reaching the dry lake. They lack a clear surface connection, via defined channels with bed and bank, to the dry lakebed. Any low-volume, short-duration ponding in the dry lakebed appears to primarily originate from onsite direct rainfall, since outside hydrologic inputs have been significantly decreased by the presence of the roads.

The United States Army Corps of Engineers (USACE) previously evaluated Lucerne Dry Lake as the lowest point in the Lucerne Valley watershed to determine if the dry lakebed and washes terminating there constitute waters of the U.S. (WOUS) that would be regulated under Section 404 of the CWA. The USACE considered Lucerne Dry Lake in an approved jurisdictional determination (AJD) dated November 16, 2010, for the Granite Mountain Wind Project (USACE File No. SPL-2010-00791-SLP, JD-2). In this determination, the USACE found that it is a dry lake, and surface flows that enter the dry lakebed percolate into the groundwater table. The determination concluded that Lucerne Dry Lake is not a Traditional Navigable Water (TNW) and is not an "other" water. It does not: Have use for surface water used for recreation or other purposes by foreign or interstate travelers; does not support harvesting activities of fish or shellfish that may be sold in interstate or foreign commerce, and; does

not support surface water industrial usage by industries in interstate commerce. Additionally, the current definition of WOUS under the Navigable Water Protection Rule excludes dry lakebeds that do not contribute surface water flow to a TNW or territorial sea in a typical year. Therefore, the Lucerne Dry Lake would not be considered a WOUS under the Navigable Waters Protection Rule.

As part of a determination regarding ephemeral washes within the Lucerne Valley watershed, the USACE stated that the Lucerne Valley basin is a closed basin with no external surface water flows leaving the basin, with Lucerne Dry Lake as the low point. The USACE concluded that ephemeral washes flowing toward Lucerne Dry Lake are isolated and not under federal jurisdiction (Approved Jurisdictional Determination for Agincourt Solar Project, USACE File No. SPL-2012-00498 [JD-BEM], May 29, 2013).

Based on these determinations, the USACE is not expected to assert jurisdiction over Lucerne Dry Lake and tributaries. These features are hydrologically isolated from TNWs or interstate waters and do not have the potential to directly or indirectly affect interstate or foreign commerce (33 CFR 3.28.3(a)(3)). Therefore, federal CWA jurisdiction and USACE delineation methods are not considered further.

CFGC Sections 1600 et seq. were enacted to conserve wildlife associated with lake and stream ecosystems. The vast majority of the dry lakebed is topographically planar and unvegetated and provides extremely limited, low-quality value for wildlife. Soils are highly alkaline and lack nutrients due to repeated inundation and evaporation events, and high and low temperatures are extreme. What little vegetation is present is primarily concentrated within larger fractures at the edges of the dry lakebed. Riparian habitat is limited to retention basins and sporadic pipeline leakages, and the dry lake does not support fish or other aquatic life.

The dry lakebed contains numerous large polygonal cracks, oriented in every direction. Based on background research and field observations, these fractures are not formed by fluvial processes typical to streams regulated by CDFW and RWQCB. The polygonal cracks on the surface of Lucerne Dry Lake are the result of geologic processes and were not carved by the flow of water. Lucerne Lake's polygonal fractures do not exhibit typical characteristics of streambeds such as bed, bank, and channel features and indicators of fluvial activity. The lakebed is generally very flat, with elevation change in the lower levels near zero. The fractures do not convey water flow from higher elevations to lower elevations as in a typical stream and lack an origin and terminus or a discernable direction of flow. They appear to simply retain water in the low elevations of the fracture channels during periods of extreme precipitation, which appears to primarily originate from onsite direct rainfall, as discussed above. Most of the fractures are devoid of vegetation. Some of the fractures are vegetated with upland species that are also present outside of the lakebed, primarily allscale. The vegetation appears to occur in older fractures near the dry lakebed edges where enough time has passed for seeds to disperse into the fractures and vegetation to colonize and persist. This vegetation consists almost exclusively of upland species, primarily allscale.

Based on the factors presented above, only the retention basins and leaked pipe within the dry lakebed were delineated as CDFW/RWQCB-jurisdictional features.

POTENTIAL CDFW AND RWQCB JURISDICTIONAL RESOURCES

Approximately 8.34 acres of retention basins, leaked pipeline, and ephemeral streams, and 91,251 linear feet of ephemeral streams were delineated within the Sienna Project area. The only riparian habitat observed is limited to a small, isolated wetland at what is likely an irrigation pipeline leak.

Rincon biologists delineated and mapped 33 stream segments, 4 retention basins, and 1 isolated wetland. These streams convey flows only during and immediately after high precipitation events. Evidence of fluvial activity in the majority of the streams is faint, and primarily consists of weakly defined multiple-thread channels with very low banks, minor changes in soil character, and marginally decreased vegetative cover. The delineated streams were distinct and separated by local topography and elevations of land that confine them to a definite course when waters rise to their highest level. Vegetation species composition in the streams and stream margins does not differ from the surrounding areas, while vegetation density is generally slightly lower. Soils consist primarily of unconsolidated small particles including sand and gravel. No evidence of higher concentrations of suspended sediment or greater transport rates of bedload sediment was observed in these features. Infiltration rates are high. Overall, the movement of sediment, organic debris, and nutrients is extremely limited.

Based on a review of historical aerial photographs, it is likely that these streams conveyed higher volume flows and were more clearly defined prior to the construction of roads and increased human activity on and around the site. In their current condition, most streams have been fragmented or isolated by formal and informal roads and OHV tracks, greatly reducing fluvial activity. Many of these are indicative of partially abandoned channels, based on the isolation from their source and very low fluvial activity.

A number of ephemeral streams surrounding the dry lakebed are mapped in the NWI. They are classified as riverine, intermittently flooded streambeds (Cowardin code R4SBJ). In these areas, most of the streambeds are depicted as connecting to the dry lakebed. However, field observations indicate that the streams on-site lack a clear surface connection via defined channels with bed and bank to the dry lakebed, with any channel flow currently dissipating to sheet flow prior to entering the modern extent of the dry lake. The NHD mapping data is similar to the NWI in that streambed features are depicted in approximately the same locations, only fewer features are depicted. Similarly, some features are depicted connecting to the dry lakebed and others are not.

The four retention basins on the Project area are man-made and associated with agricultural uses from surrounding farmlands. Of the four basins, one was determined to consist of wetland waters based on a sampling point examined in the bed. Two basins could not be accessed and were, therefore, assumed to consist of wetland waters. The other basin did not contain hydric soils and was therefore not a wetland. According to the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019), artificially constructed lakes and ponds created in dry land such as settling basins are excluded from the definition of Waters of the State. Therefore, the four detention basins are not under jurisdiction of the RWQCB.

One isolated wetland was observed in the western portion of the Sienna Project area in a small puddle dominated by cattails. Ponding and a hydrogen sulfide odor were observed at the time of the survey.

Calcite Substation

According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation area crosses numerous ephemeral drainages of varying size typical of the Mojave Desert which generally flow towards Lucerne Dry Lake. Sixteen drainages were delineated with potentially jurisdictional non-wetland waters subject to the jurisdiction of the RWQCB and potential streambeds subject to the jurisdiction of the CDFW pursuant to the California Fish and Game Code. However, these washes are not federally jurisdictional due to the Lucerne Dry Lake closed drainage basin without surface water connection to interstate waters or navigable waters.

Further, no wetlands are present within the Calcite Substation area (California State Lands Commission 2021).

Wildlife Movement Corridors and Habitat Linkages

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Habitats within a linkage are not necessarily the same as those being linked. Rather, the linkage needs only contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species during periods of movement among areas of suitable habitat. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending on the species, a linkage may require specific minimum physical characteristics (such as rock outcroppings, vernal pools, specific vegetation cover, etc.) to function as an effective wildlife corridor, and allow those species to traverse the linkage. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a relatively short period of time.

Sienna Project

The CDFW BIOS website and the California Essential Habitat Connectivity Project: A Strategy for Conserving Connected California were reviewed for wildlife movement information. The Sienna Project area is not located within an identified wildlife movement corridor or linkage (Appendix D1 of this EIR).

The Sienna Project area and surrounding area contain expanses of open habitat with little development, and the site lacks any significant barriers to local wildlife movement. High temperatures and lack of cover within disturbed areas of the Sienna Project area may deter wildlife from crossing directly. Little development is present within the Sienna Project area and wildlife would be expected to traverse the site during foraging and dispersal. Various species may travel between and among surrounding areas of low disturbance (predominantly present immediately to the north and west of the Sienna Project area). The most likely areas for wildlife movement in this portion of the Mojave Desert would be within larger drainages, uninterrupted spans of native vegetation (creosote scrub, Joshua tree woodland, etc.), or along the foothills of the Granite Mountains to the north and west. While the Sienna Project area does contain areas of relatively undisturbed native vegetation communities, habitats are largely fragmented on the site and would limit the value of the Sienna Project area as a significant wildlife movement corridor (Appendix D1 of this EIR).

Calcite Substation

According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the California Essential Habitat Connectivity (CEHC) Project identified areas in the vicinity of the Calcite Substation, north in Stoddard Valley, east in the Ord Mountains, and south in the San Bernardino Mountains, as Essential Connectivity Areas. These areas, as well as a portion of the Granite Mountains to the west, were identified as Natural Landscape Blocks. Two BLM Areas of Critical Environmental Concern (ACEC) are located around the Calcite Substation area: The Ord-

Rodman ACEC to the north and Granite Mountain Wildlife Linkage ACEC to the west. The western border of the Calcite Substation area abuts the Granite Mountain Wildlife Linkage ACEC (California State Lands Commission 2021).

Habitat Conservation Plans

Sienna Project

The Sienna Project area is located within the broader boundaries of the DRECP, a joint collaboration between the California Energy Commission, BLM, USFWS, and CDFW. This conservation plan is currently being developed. A phased approach to implementation is currently underway. Phase I addresses conservation and development goals on public lands. BLM is responsible for the implementation of this phase through preparation of the Land Use Planning Amendment (LUPA), which was approved in September 2016. During Phase II Counties in the DRECP plan area, through the use of Renewable Energy Conservation Planning Grants, will develop or update rules and policies related to renewable energy resources on private lands. This phase will require agency coordination to develop the best options to protect and conserve desert ecosystems while promoting renewable energy. San Bernardino County has completed Phase II and has revised the *Countywide General Plan* to include a Renewable Energy and Conservation Element as of August 8, 2017. However, the Sienna Project area occurs on private land only and is not located within any other local, regional, or State conservation planning areas.

Calcite Substation

The Town of Apple Valley is developing a Multi-Species Habitat Conservation Plan (MSHCP)/Natural Community Conservation Plan (NCCP) in coordination with CDFW and USFWS. According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation is located just outside of the Apple Valley MSHCP/NCCP boundary (California State Lands Commission 2021).

3.5.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Sienna Project.

Federal

Bald and Golden Eagle Protection Act of 1940

The Bald Eagle Protection Act of 1940 protects bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. ‘Take’ is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” ‘Disturb’ is defined as “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” (72 Federal Register [FR] 31132; 50 CFR 22.3). All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this Act.

Federal Endangered Species Act

The FESA protects federally listed threatened and endangered species and their habitats from unlawful take and ensures that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the FESA, "take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The USFWS regulations define harm to mean "an act which actually kills or injures wildlife" (50 CFR 17.3).

Migratory Bird Treaty Act

The MBTA prohibits the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (FGC).

Section 404 Permit (Clean Water Act)

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredge and fill material into waters of the U.S., including wetlands, without a permit from the U.S. Army Corps of Engineers (USACE). Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404b permit or authorization to use an existing USACE Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway.

State

California Endangered Species Act

Provisions of CESA protect state-listed threatened and endangered species. The CDFW regulates activities that may result in "take" of individuals ("take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the FGC. Additionally, California FGC contains lists of vertebrate species designated as "fully protected" (California FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to state-listed species, CDFW has also produced a list of SSC to serve as a "watch list." Species on this list are of limited distribution or the extent of their habitats has been reduced substantially such that threats to their populations may be imminent. The SSC may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under California FGC. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

California Fish and Game Code Section 1600 et. seq (as amended)

The California FGC Section 1600 et. seq. requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

California Fish and Game Code Sections 3503, 3503.5 and 3513

Under Sections 3503, 3503.5, and 3513 of the California FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated by the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited. Additionally, the State further protects certain species of fish, mammals, amphibians and reptiles, birds, and mammals through CDFW's Fully Protected Animals which prohibits any take or possession of classified species.

California Fish and Game Code Sections 1900-1913 (Native Plant Protection Act)

California's Native Plant Protection Act prohibits the taking, possessing, or sale within the state of any plant listed by CDFW as rare, threatened, or endangered. This allows 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.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, all projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate regional water quality control board (RWQCB). The project falls under the jurisdiction of the Colorado River RWQCB.

California Environmental Quality Act

Title 14 CCR, Section 15380 requires the identification of endangered, rare, or threatened species or subspecies of animals or plants that may be impacted by a project. If any such species are found, appropriate measures should be identified to avoid, minimize, or mitigate the potential effects of projects.

Local

San Bernardino County Countywide Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. Relevant goals and policies of the Policy Plan are as follows:

NATURAL RESOURCES ELEMENT

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.

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

The proposed Project would be subject to the following regulations outlined in the San Bernardino County Development Code:

- **Section 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.
- **Section 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.
- **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 it is within the Desert Planning Region.
- **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.
- **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.

3.5.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to biological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on *CEQA Guidelines* Appendix G, Project impacts related to biological resources are considered significant if the Project would:

- 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 CDFW or USFWS; or

- 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 CDFW or USFWS; or
- have a substantial adverse effect on state or federally-protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means; or
- interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Methodology

This analysis evaluates the potential for the Sienna Project, as described in Chapter 2, Project Description to result in significant impacts related biological resources on or in the vicinity of the Sienna Project site. This analysis considers whether these conditions would result in an exceedance of one or more of the applied CEQA significance criteria as identified above.

A BRA and JDR were prepared for the Sienna Project. The information obtained from the sources was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with biological resources that could result from construction and operational activities associated with the Sienna Project were evaluated qualitatively based on site conditions, expected construction practices, and materials, locations, and duration of Project construction and related activities.

Impact Analysis

Impact 3.5-1 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 CDFW or USFWS?

SIENNA PROJECT

Construction - Less than Significant with Mitigation Incorporated. The following is an analysis of the Sienna Project's potential impacts on special-status species during construction.

Special-Status Plant Species. The Sienna 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.

No special-status plant species were observed within the Sienna Project area during the biological field surveys. However, there is potential for seven special-status plant species to occur in the Sienna Project area. Of the seven species with potential to occur on the Sienna Project site, only one species

has a moderate potential to occur: Parish's phacelia (Figure 3.5-4) (Appendix D1 and D2 of this EIR). Rare plant protocol surveys did not document any special-status plant species within the Sienna Project area. However, the rare plant protocol 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 Sienna 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. Implementation of Mitigation Measure BIO-1 would require a pre-construction rare-plant survey to be conducted by a Qualified Biologist and require the establishment of buffers to avoid impacts to potential special-status plant species if observed on the Sienna Project site. If avoidance of special-status plant species is not feasible, Mitigation Measure BIO-1 would require the preparation and implementation of a Special-Status Plant Relocation Plan, which will incorporate various measures, including topsoil salvage to preserve seed bank, seed collection, storage, possible nursery propagation, and planting, and funding mechanisms. The Special-Status Plant Relocation Plan would include methods, monitoring, reporting, success criteria, adaptive management, and contingencies for achieving success. Implementation of Mitigation Measure BIO-2 would require the Project Applicant to retain a Qualified Biologist with experience and expertise in desert species to oversee compliance with protection measures for all listed and other-special status species and to monitor the Sienna Project area during initial grading, ground disturbance and vegetation removal activities. With implementation of Mitigation Measures BIO-1 and BIO-2, potential impacts on special-status plant species would be reduced to a less than significant level.

SPECIAL-STATUS WILDLIFE SPECIES

Desert tortoise. As previously mentioned above, surveys were conducted pursuant to the USFWS' protocols for surveying Mojave desert tortoise within identified desert tortoise habitat. No Mojave desert tortoise or sign were observed within the Sienna Project area during the surveys (Appendix D2 of this EIR). Although no desert tortoise were observed within the Sienna Project area, the northern and eastern portions of the Sienna Project site contain the least disturbed natural saltbush scrub communities and, therefore, the greatest potential to support desert tortoise. It is therefore assumed conservatively that desert tortoises could be present prior to construction and, therefore, that Project disturbance activities (e.g., vegetation clearing, site grading, excavation earthwork) could significantly impact desert tortoises. This potential direct impact would be mitigated to less than significant with implementation of Mitigation Measures BIO-2, BIO-3, and BIO-4. Mitigation Measure BIO-2 requires the Project Applicant to retain a Qualified Biologist with experience and expertise in desert species to oversee compliance with protection measures for all listed and other-special status species and to monitor the Sienna Project area during initial grading, ground disturbance and vegetation removal activities. Mitigation Measure BIO-3 would reduce impacts to desert tortoise by requiring a pre-construction clearance survey to determine species presence and preparing a desert tortoise translocation and monitoring plan if desert tortoise are documented on the Sienna Project site. Mitigation Measure BIO-4 requires implementation of a construction worker environmental awareness program would reduce potentially significant impacts to desert tortoise to a less than significant level.

Desert kit fox. Although no desert kit foxes were observed during field surveys, the Sienna Project area contains suitable habitat for the species. The Sienna Project could directly impact suitable habitat for desert kit fox and has the potential to impact individual foxes if they are present on-site at the time of scheduled disturbance activities. This potential direct impact is considered significant. Mitigation Measure BIO-2 requires the Project Applicant to retain a Qualified Biologist with experience and

expertise in desert species to oversee compliance with protection measures for all listed and other-special status species and to monitor the Sienna Project area during initial grading, ground disturbance and vegetation removal activities. Mitigation Measure BIO-4 requires implementation of a construction worker environmental awareness program. Mitigation Measure BIO-5 requires qualified personnel to perform a pre-construction clearance survey for desert kit fox in accordance with CDFW guidelines. Implementation of Mitigation Measures BIO-2, BIO-4, and BIO-5 would reduce this impact to a less than significant level.

Burrowing owl. Two burrowing owls were flushed from an active burrow located within a drainage pipe during the reconnaissance surveys in the southwestern portion of the Sienna Project area (Appendix D1 and D2 of this EIR). Portions of the Sienna Project area and adjacent areas with low density scrub cover include potentially suitable foraging habitat for the species and burrows suitable for occupation by burrowing owls. Based on the CNDDB occurrences, presence of suitable habitat, and the siting of two individual burrowing owls and an active burrow, the species is considered present within the Sienna Project area and may occur for wintering or breeding throughout the Project area, wherever suitable burrows occur. The Sienna Project has the potential to impact burrowing owl individuals if they are present on the site at the time of scheduled disturbance activities. However, implementation of Mitigation Measures BIO-2, BIO-4, and BIO-6 would reduce potentially significant impacts to burrowing owl to a less than significant level. Measure BIO-2 requires the Project Applicant to retain a Qualified Biologist with experience and expertise in desert species to oversee compliance with protection measures for all listed and other-special status species and to monitor the Sienna Project area during initial grading, ground disturbance and vegetation removal activities. Mitigation Measure BIO-4 requires implementation of a construction worker environmental awareness program. Mitigation Measure BIO-6 requires a pre-construction clearance survey to determine species presence and identifying proper measures for avoidance and/or species relocation, as needed.

Mohave Ground Squirrel. As previously mentioned above, the historic range of the Mohave ground squirrel extends to the southwest of Lucerne Valley but does not include Lucerne Valley. The closest CNDDB occurrence within 5 miles of the Sienna Project area was recorded in 1886 and according to the most recent Five-Year Status review, no Mohave ground squirrel were found in the area. Additionally, no Mohave ground squirrels have been reported east of the Mojave River since 1977, and it may be extirpated from this region (Appendix D1 of this EIR). The Mohave ground squirrel is not expected to occur in the Sienna Project area. The Sienna Project area is located outside of the known historical range of the species, and there are no recent occurrences of the species in the vicinity of the Project area (Appendix D1 of this EIR). Therefore, no direct or indirect impacts to Mohave ground squirrel are anticipated to occur.

American Badger. No individuals were observed and no sign was found to indicate that badgers are currently using the Sienna Project area. Therefore, no direct or indirect impacts to American badger are anticipated to occur.

Mountain Lion. Direct impacts to mountain lions are not anticipated as the species is large and highly visible and therefore, can be easily avoided by equipment and personnel during project activities. Potential indirect impacts could include increased sound and vibration levels and exposure to dust. The Sienna Project area is surrounded by undeveloped land and open space providing a multitude of regional movement options within and adjacent to the Project area. Therefore, Project activities would not significantly impact the amount of regional habitat available for mountain lions in the vicinity.

Nesting Birds and Raptors. Many common MBTA bird species were observed throughout the Sienna Project area and vicinity. Native birds protected by the CFGC and the MBTA (potentially including

prairie falcon and loggerhead shrike) may nest on-site. Construction activity has the potential to directly (by destroying a nest) or indirectly (by causing an active nest to fail) impact nesting birds protected under the CFGC and MBTA, and this would be potentially significant. Mitigation Measure BIO-7 requires preparation of preconstruction nesting bird surveys, that when implemented, would reduce impacts to a less than significant level. Furthermore, Mitigation Measures BIO-2 requires the Project Applicant to retain a Qualified Biologist with experience and expertise in desert species to oversee compliance with protection measures for all listed and other-special status species and to monitor the Sienna Project area during initial grading, ground disturbance and vegetation removal activities. Mitigation Measure BIO-4 requires implementation of a construction worker environmental awareness program.

The Sienna Project area contains suitable foraging habitat for special-status birds of prey (e.g., golden eagle and prairie falcon). Loss of foraging raptor habitat could be considered significant if it had substantial adverse effects to local populations of special-status raptors protected under the CFGC, Bald and Golden Eagle Protection act (BGEPA) or the MBTA. The Sienna Project area is located in the Lucerne Valley, a region continuous with the larger Mojave Desert habitat. The DRECP modeled 506,622 acres of suitable golden eagle breeding habitat, and 21,373,122 acres of suitable foraging habitat in the DRECP plan area. However, the Project area is not within this modeled habitat (Appendix D1 of this EIR).

As described in the BRA, five pairs of golden eagles were tracked for a radio telemetry study in the Granite Mountains to the north of the Sienna Project area. The authors evaluated breeding home ranges using kernel density estimators (KDE) and defined home ranges as general areas used by eagles (90% KDE) and core home ranges (50% KDE). Of the five eagles in the Granite Mountains only one had a general range that overlapped slightly with the northwestern portions of the Sienna Project area. No core home range areas occur within the Sienna Project area. The authors note that core areas, which can occur at long distances from nest sites, may function as important resource areas for the eagles. Approximately 72% (1,807 acres) of the Sienna PV development area is low to high quality foraging habitat (spinescale scrub) and no core home range areas are present within the Sienna Project area. As such, loss of foraging habitat from development of the Sienna Project would not constitute a significant impact under CEQA. Direct significant impacts to foraging raptors under CEQA are not expected from Project development and no mitigation is recommended.

Operation - Less than Significant Impact. Due to the relatively low-maintenance operational nature of solar energy facilities, no operational impacts to special-status plant and animal species are anticipated following construction. While native birds protected by the CFGC and the MBTA (potentially including prairie falcon and loggerhead shrike) may nest on-site, all electrical components on the Sienna Project site shall be either undergrounded or protected, resulting in minimal potential for avian electrocution. Additionally, based on the Avian Powerline Interaction Committee's (APLIC) 1996 report on power line electrocution in the U.S., avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds. The distance between energized components along transmission lines (>69 kV) is generally insufficient to present avian electrocution risk. Therefore, no operational impacts to birds are anticipated along the proposed gen-tie line. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction impacts to habitat for

common and special-status wildlife would result from site preparation and ongoing use of work and staging areas, installation of facilities, and the creation and improvement of access roads. In addition, ground disturbing activities associated with the construction of the proposed Calcite Substation would directly impact vegetation, topsoil, and wildlife burrow habitat resulting in permanent direct impacts to habitat. Construction of the proposed Calcite Substation would result in loss of all vegetation and habitat within the construction footprint. Furthermore, construction activities may cause indirect habitats such as altered hydrology onsite, fugitive dust effects on plants and wildlife, and disturbance of soils through introduction of non-native weeds. The direct and indirect effects would represent a potentially significant impact.

However, implementation of Mitigation Measures BIO-1a through BIO-1g, as described in Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* and provided below would minimize, avoid, or offset direct and indirect impacts to wildlife habitat from construction of the proposed Calcite Substation. More specifically, direct permanent and temporary impacts would be compensated for and offset with revegetation and acquisition of compensation lands and indirect impacts to vegetation from weed infestation would be minimized with an IWMP. The habitat loss would be offset with preservation and management of comparable habitat protected by funding by the Calcite Substation Project Applicant.

In addition, construction, O&M activities, and decommissioning of the Calcite Substation would potentially impact special-status reptiles, birds, and other mammals as described under Impact BIO-1 in Section 4.3.4.1 of the *Stagecoach Solar Project Draft EIR*. This would include impacts to desert tortoise, Mohave ground squirrel, burrowing owl, bats, and nesting birds. Direct impacts on avian species include loss of active nest, nest abandonment, or take of eggs or nestling birds. Industry standard protective designs for the substation would be implemented to deter birds from approaching. Mitigation measures for special-status wildlife occupying the Calcite Substation site would be surveyed and identified, monitored, protected, and relocated as needed in the vicinity. Monitoring of bird mortality and adaptively managing the substation facility would be implemented to evaluate and minimize collisions. Avoidance of vegetation clearing during the nesting season or conducting pre-construction nest surveys of potential habitat, and implementation of non-disturbance buffer areas around active nests would be implemented. Also, potential nests built on the Calcite Substation site or in nearby habitat would be monitored and avoided within a nest buffer. These measures would be implemented through MM BIO-3a through BIO-3g, MM NOI-1a, MM ALG-5, and MM TRA-1 as described in the *Stagecoach Solar Project Draft EIR*. While construction of the Calcite Substation would result in loss of habitat, impacts would be minimal and localized on the substation parcel (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with special-status species. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

BIO-1 **Pre-Construction Rare Plant Survey.** Prior to the start of construction, a Qualified Biologist 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 special-status plant species (i.e., endangered, threatened, or California Native Plant Society CRPR 1 and 2 species) are observed during the pre-construction rare plant survey within the development area of the Sienna Project, the Sienna Project shall be designed to reduce impacts to these species through the establishment of buffers, to the extent feasible. Buffer distances will be determined by the Qualified Biologist, typically 50 feet or greater from an identified special-status plant species, unless the Qualified Biologist determines a reduced buffer would suffice to avoid impacts to the species.

If avoidance of special-status plant species is not feasible, a Special-Status Plant Relocation Plan shall be developed and implemented. The Special-Status Plant Relocation Plan shall address mitigation for special-status plants, including topsoil salvage to preserve seed bank and management of salvaged topsoil; seed collection, storage, possible nursery propagation, and planting; salvage and planting of bulbs as feasible; location of on-site receptor sites; land protection instruments for receptor areas, and; funding mechanisms. The Special-Status Plant Relocation Plan shall include methods, monitoring, reporting, success criteria, adaptive management, and contingencies for achieving success.

All special-status plant species identified on site shall be mapped onto a site-specific aerial photograph and topographic map and included on the construction, grading, fuel modification, and landscape plans.

BIO-2 **Biological Monitoring.** Prior to the issuance of grading or building permits, the Project proponent shall retain a Qualified Biologist, with experience and expertise in desert species, to oversee compliance with protection measures for all listed and other special-status species. If State or Federally listed species or other special status biological resources are identified on the Project area during protocol and/or preconstruction surveys, then the Qualified Biologist may need to be approved by USFWS and/or CDFW as an authorized biologist for handling listed species. The Qualified Biologist or other Qualified Biological Monitors shall be on the Project area during initial grading, ground disturbance and vegetation removal activities in natural scrub vegetation communities to monitor construction activity where that activity could directly or indirectly impact special status biological resources. The Qualified Biologist shall have the authority to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after potential hazards to special-status species are removed and the species is no longer at risk. The Qualified Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on the Project area.

BIO-3 **Desert Tortoise.** To avoid construction-level impacts to desert tortoise, not more than 45 days prior to ground-disturbing activities for the construction and/or decommissioning phase(s), qualified personnel shall perform a pre-construction clearance survey for desert tortoise. If desert tortoise are not documented during seasonally time protocol desert tortoise surveys, no additional measures related to desert tortoise avoidance and minimization are recommended. If desert tortoise are

documented inhabiting any portion of the Sienna Project area during presence/absence surveys, the following measures shall be implemented:

- Develop a plan for desert tortoise translocation and monitoring prior to Project construction. The plan shall provide the framework for implementing the following measures, or similar measures deemed sufficient and approved during agency consultation (Note: any desert tortoise translocation plan must be reviewed and approved by CDFW and USFWS):
    - If a permanent tortoise-proof exclusion fence is practicable, a fence shall be installed around all construction areas prior to the initiation of ground disturbing activities, in coordination with a Qualified Biologist. The fence shall be constructed of 0.5-inch mesh hardware cloth and extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent desert tortoise entry. The fence shall be supported sufficiently to maintain its integrity, be checked at least monthly during construction and operations, and maintained when necessary by the Project proponent to ensure its integrity. Provisions shall be made for closing off the fence at the point of vehicle entry. Raven perching deterrents should be installed as part of the fence construction.
    - After fence installation, an authorized biologist shall conduct a pre-construction survey for desert tortoise within the construction site. The authorized biologist shall have the appropriate education and experience to accomplish biological monitoring and mitigation tasks and is approved by the CDFW and the USFWS. Two surveys without finding any tortoises or new tortoise sign shall occur prior to declaring the site clear of tortoises.
    - All burrows that could provide shelter for a desert tortoise shall be hand-excavated prior to ground-disturbing activities.
    - An authorized biologist shall remain on-site until all vegetation is cleared and, at a minimum, conduct site and fence inspections on a regular basis throughout construction, in order to ensure Project compliance with mitigation measures.
    - A biologist shall remain on-call throughout fencing and grading activities in the event a desert tortoise wanders onto the Project area.
    - Compensatory mitigation in the form of a conservation easement or purchase of mitigation bank credits to compensate for the loss of occupied desert tortoise habitat at a minimum ratio of 1:1, with habitat of equal or greater value.

BIO-4 **Construction Worker Environmental Awareness Training and Education Program.** Prior to any activity on site and for the duration of construction activities, all personnel at the Project area (including laydown areas and/or transmission routes) shall attend a Worker Environmental Awareness Program (WEAP) developed and presented by the Qualified Biologist. New personnel shall receive WEAP training on

the first day of work and prior to commencing work on the site. Any employee responsible for the operation and maintenance (O&M) or decommissioning of the Project facilities shall also attend WEAP training.

1. The program shall include information on the life history of the desert tortoise, burrowing owl, golden eagle, and other raptors, nesting birds, desert kit fox, as well as other wildlife and plant species that may be encountered during construction activities.
2. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the Project proponent is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
3. The program shall provide information on how and where to bring injured animals for treatment in the case any animals are injured on the Project area.
4. An acknowledgement form signed by each worker indicating that WEAP training has been completed shall be kept on record.
5. A sticker shall be placed on hard hats indicating that the worker has completed the WEAP training. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the WEAP training and are wearing hard hats with the required sticker.
6. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms shall be submitted to the San Bernardino County Land Use Services Department, Planning Division, upon the County's request.

BIO-5 **Desert Kit Fox.** To avoid construction-level impacts to desert kit fox, not more than 30 days prior to Project disturbance activities, qualified personnel shall perform a pre-construction clearance survey for desert kit fox in accordance with CDFW guidelines. Surveys shall also consider the potential presence of active dens within 100 feet of the boundaries of the on-site disturbance footprint, access roads, and selected alignment for the gen-tie line. If dens are detected, each shall be classified as either inactive, potentially active, or definitely active.

If potential desert kit fox dens are observed and avoidance is feasible, buffer distances shall be established by the Qualified Biologist prior to construction activities. Typical buffer distances for desert kit fox are:

- Desert kit fox potential den: 50 feet
- Desert kit fox active den: 100 feet
- Desert kit fox natal den: 500 feet

If avoidance of the potential desert kit fox dens is not feasible, the following measures are recommended to minimize potential adverse effects to the desert kit fox:

- If a Qualified Biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel and collapse them to prevent desert kit foxes from re-using them during construction.
- If the Qualified Biologist determines that potential dens may be active, an on-site passive relocation program shall be implemented, subject to coordination with CDFW. Based on coordination with CDFW, it is anticipated that this program shall only be implemented during the non-breeding season (September 1 through February 1) and consist of passive eviction of desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances and monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. Non-breeding season dates will be confirmed based on coordination with CDFW. After the Qualified Biologist determines that desert kit foxes have stopped using active dens within the Project boundary, the dens shall be hand- excavated with a shovel and collapsed to prevent re-use during construction. Only non-natal dens shall be passively excluded, disturbance to natal dens shall be avoided.

BIO-6 **Burrowing Owl.** To avoid construction-level impacts to burrowing owl, not more than 30 days prior to Project disturbance activities, qualified personnel shall perform a pre-construction clearance survey for burrowing owl in accordance with CDFW guidelines. If the species is present on-site and/or within 500 feet of the site, the biologist shall prepare and submit a passive relocation plan to the CDFW for review/approval and shall implement the approved plan to allow commencement of disturbance activities on-site.

If burrowing owls are detected on-site, a no-work buffer shall be established, restricting all ground-disturbing activities, such as vegetation clearance or grading, from occurring within the buffer. Typical avoidance buffer distances for burrowing owl range from 100 meters (330 feet) to 250 meters (825 feet) depending on Project activity, line of sight and local topography, during the breeding season (February 1 to August 31). During the non-breeding (winter) season (September 1 to January 31), typical avoidance buffers range from 50 meters (165 feet) to 100 meters (330 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.

If burrowing owl burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31), where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a Qualified Biologist shall implement a passive relocation program. At a minimum, the program shall include the following performance standards:

- Excavation shall require hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow and monitored for at least 48 hours after installation. If burrows will not be directly impacted by the Project, one-way

doors shall be installed to prevent use and shall be removed after ground-disturbing activities have concluded in the area. Only burrows that will be directly impacted by the Project shall be excavated and filled.

- Detailed methods and guidance for passive relocation of burrowing owls to off-site "replacement burrow site(s)" consisting of a minimum of two suitable, unoccupied burrows for every burrowing owl or pair to be passively relocated.
- Monitoring and management of the replacement burrow site(s) and a reporting plan. The objective shall be to manage the replacement burrow sites for the benefit of burrowing owls (e.g., minimizing weed cover), with the specific goals of maintaining the functionality of the burrows for a minimum of 2 years.

BIO-7 **Measures for Nesting Birds and Raptors.** If construction is scheduled to commence during the non-breeding season (September 1 to January 31), no pre-construction surveys or additional measures with regard to nesting birds and other raptors are required. To avoid impacts to nesting birds in the Project area, a qualified wildlife biologist shall conduct pre-construction surveys of all potential nesting habitats within the Project area for project activities that are initiated during the breeding season (February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows, Joshua trees, and shrubs) within a 0.5-mile buffer around the Project area. These surveys shall be conducted no fewer than 14 days prior to ground-disturbing activities without prior agency approval. Surveys need not be conducted for the entire Project area at one time. They may be conducted in phases so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance.

If active nests are found, a suitable buffer as determined by the Qualified Biologist (e.g., 200-300 feet for common raptors, 30-50 feet for passerines, 0.5 mile for golden eagle) should be established around active nests, and no construction within the buffer shall be allowed until a Qualified Biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of a Qualified Biologist. However, for State-listed species, consultation with the CDFW shall occur prior to encroachment into the aforementioned buffers.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM BIO-1a Implement Biological Monitoring. Monitoring to ensure conformance with conditions of approval, including effective protection and avoidance of biological resources, shall be implemented by the Applicant (Aurora Solar LLC for the Stagecoach Solar Generation Plant and Stagecoach Gen-tie Line and SCE for the Calcite Facilities) as follows:

Biological Monitoring Team. During construction and decommissioning the Applicant shall employ or contract with a biological monitoring team to oversee project activities. Any activity that may impact vegetation, wildlife, and sensitive resources will be monitored to ensure compliance with all mitigation measures for biological resources. The biological monitoring team will consist of:

- **Lead Biologist:** The Applicant shall assign a Lead Biologist, approved by the California State Lands Commission (CSLC), as the primary point of contact for the CSLC and resource agencies regarding biological resources mitigation and compliance. The Lead Biologist will be under contract to the Applicant and will serve as principal point of contact to the CSLC regarding implementation and compliance with biological resources measures throughout construction, operation and maintenance (O&M), and decommissioning.
- **Biological Monitor:** Biological monitors will be overseen by the Lead Biologist and will perform any required surveys, ground disturbance and construction monitoring, wildlife monitoring, inspections, marking sensitive resource buffers, and revegetation monitoring during project activities. Biological monitors will include trained desert tortoise monitors (MM BIO-3c), nest monitors (MM BIO-3f) and other specialists as appropriate to any given measure.
- **Authorized Desert Tortoise Biologist:** For desert tortoise protection measures (MM BIO-3c), Avangrid will nominate one or more qualified individuals to serve as Authorized Desert Tortoise Biologist for the solar generation plant and gen-tie line, for approval by the USFWS.

The Applicant shall provide the resumes of each member of the proposed Biological Monitoring Team to the CSLC for approval prior to onset of ground-disturbing activities. Each member of The Biological Monitoring Team will have demonstrated expertise with the biological resources within the project region. Each member of the Biological Monitoring Team will have authority to halt any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources.

The duties of the Biological Monitoring Team will vary during the construction, O&M, and decommissioning phases, based on the biological monitoring tasks needed for compliance during each phase. The Biological Monitoring Team will be used mostly during construction; however, some intermittent inspections or monitoring may be needed during O&M and decommissioning. Biological monitoring during O&M will not necessitate a full team, but the Applicant will ensure all required biological monitoring and reporting (e.g., revegetation and avian mortality monitoring) are completed as specified in MMs below. During O&M, an Applicant staff member serving as compliance manager may perform the administrative duties of the Lead Biologist, by overseeing qualified Biological Monitors, to ensure compliance with biological mitigation measures, such as overseeing inspections for entrapped wildlife and fence condition, reporting dead or injured wildlife, and avoiding nesting birds. Qualifications for monitors during O&M and lead agency review of resumes will be as described above.

In general, the duties of the Lead Biologist will include, but will not be limited to:

- Regular, direct communication with representatives of the CSLC, and other agencies, as appropriate. The Lead Biologist (or the Applicant's compliance manager during O&M) shall immediately notify the CSLC and applicable resource agencies in writing of dead or injured special-status species, or of any non-compliance with biological mitigation measures or permit conditions.

- Train and supervise Biological Monitors, including desert tortoise monitors, nest monitors, and construction monitors
- Conduct or oversee Worker Environmental Awareness Program (WEAP) training (MM BIO-1b)
- During construction and decommissioning, clearly mark and inspect sensitive biological resource areas in compliance with regulatory terms and conditions
- Oversee wildlife clearance surveys, monitoring of ground disturbance and grading, and other biological monitoring requirements. Ensure that all biological monitoring is completed properly and on schedule.
- Conduct or oversee bi-weekly compliance inspections during ground disturbing activities and communicate any remedial actions needed (i.e., trash, fence, weed maintenance; wildlife mortality) to maintain compliance with mitigation measures

Reporting. The Lead Biologist (or the Applicant's compliance manager during O&M) shall report regularly to the CSLC to document the status of compliance with biological mitigation measures.

During construction and decommissioning:

- Provide weekly verbal or written updates to the CSLC with any information pertinent to the CSLC, to resource agencies, or to state or federal permits for biological resources
- Prepare and submit monthly and annual compliance reports to include a summary of project activities that occurred, biological resources surveys and monitoring that were performed, any sensitive or noteworthy species observed, weed infestations removed, and non-compliance issues and remedial actions that were implemented

During O&M:

- Conduct quarterly compliance inspections and reporting, to be submitted to the CSLC, to document the condition of exclusion fencing, wildlife mortality, and any biological resource issues of note.

MM BIO-1b **Implement Worker Environmental Awareness Training.** To ensure worker understanding and conformance with conditions of approval, including effective protection and avoidance of biological resources, the Lead Biologist shall prepare and implement a Worker Environmental Awareness Program (WEAP) during construction, O&M, and decommissioning. The Applicant shall be responsible for ensuring that all workers at the site receive WEAP training prior to beginning work on the project and throughout construction and operations. The WEAP shall be available in English and Spanish. The Applicant shall submit the WEAP to the CSLC for approval prior to implementation. The WEAP shall:

- Be developed by or in consultation with the Lead Biologist and consist of an on-site or training center presentation with supporting written material and electronic media, including photographs of protected species, available to all participants

- Provide an explanation of the function of flagging that designates authorized work areas; specify the prohibition of soil disturbance or vehicle travel outside designated areas
- Discuss general safety protocols such as vehicle speed limits, hazardous substance spill prevention and containment measures, and fire prevention and protection measures
- Review mitigation and biological permit requirements
- Explain the sensitivity of the vegetation and habitat within and adjacent to work areas, and proper identification of these resources
- Discuss the federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act and the consequences of non-compliance with these acts
- Discuss the locations and types of sensitive biological resources on the project site and adjacent areas and explain the reasons for protecting these resources
- Inform participants that no snakes, other reptiles, birds, bats, or any other wildlife will be harmed or harassed.
- Place special emphasis on species that may occur on the project site and/or gen-tie lines, including special-status plants, desert tortoise, burrowing owl, golden eagle, nesting birds, desert kit fox, American badger, and burro deer
- Specify guidelines for avoiding rattlesnakes and reporting rattlesnake observations to ensure worker safety and avoid killing or injuring rattlesnakes. Wherever feasible, rattlesnakes must be safely removed from the work area using appropriate snake handling equipment, including a secure storage container for transport.
- Describe workers' responsibilities for avoiding the introduction of invasive weeds onto the project site and surrounding areas, describe the Integrated Weed Management Plan
- Provide contact information for the Lead Biologist and instructions for notification of any vehicle-wildlife collisions or dead or injured wildlife species encountered during project-related activities
- Include a training acknowledgment form to be signed by each worker indicating that they received training and will abide by the guidelines
- *Desert Tortoise Education Requirements*: Prior to the start of construction activities, a desert tortoise education program shall be presented by the Lead Biologist to all personnel who will be present on Project work areas. Following the start of construction, any new employee shall be required to complete the tortoise education program prior to working on-site. At a minimum, the tortoise education program shall cover the following topics:
  - A detailed description of the desert tortoise, including color photographs
  - The distribution and general behavior of the desert tortoise

- Sensitivity of the species to human activities
- The protection the desert tortoise receives under the state and federal ESA, including prohibitions and penalties incurred for violation
- The protective measures being implemented to conserve the desert tortoise during construction activities
- Procedures and a point of contact if a desert tortoise is observed on-site

MM BIO-1c **Minimize Impact and Protect Identified Vegetation and Habitat.** Prior to ground-disturbing activities during construction, O&M, or decommissioning, authorized work areas shall be clearly delineated. These areas shall include, but are not limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils. Delineation may be implemented with common orange vinyl "fencing" or staking to clearly identify the limits of work and shall be verified by the Lead Biologist. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). Fencing/staking shall remain in place for the duration of the ground-disturbing activity and while construction vehicles are driving on-site. Spoils shall be stockpiled in disturbed areas. All disturbances, vehicles, and equipment shall be confined to the fenced/flagged areas.

Low-Impact Site Preparation. Native vegetation will be allowed to recover from rootstocks and seed bank wherever facilities do not require permanent vegetation removal (e.g., access roads, foundations, paved areas, or fire clearance requirements) within the perimeter fence line of the solar generation plant and under solar arrays. Vegetation height and density will be managed as needed for O&M and fire safety, but vegetation management will otherwise focus on maintaining habitat and soil conditions.

Upon completion of construction, O&M, or decommissioning activities in any given area, all unused materials, equipment, staking and flagging, and refuse shall be removed and properly disposed of, including wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers. Any unused or leftover hazardous products shall be properly disposed of off-site.

MM BIO-1d **Weed Management.** The Applicant shall prepare and implement an Integrated Weed Management Plan (IWMP) to minimize or prevent invasive weeds from infesting the site or spreading into surrounding habitat during construction, O&M, and decommissioning. The plan must be submitted to the CSLC staff for review and approval a minimum of 60 days prior to the start of construction activities. The IWMP shall identify weed species occurring or potentially occurring in the project area, means to prevent their introduction or spread (e.g., vehicle cleaning and inspections), monitoring methods to identify infestations, and herbicides or manual methods that may be used for control or eradication. Herbicide use shall be avoided in environmentally sensitive areas. The IWMP shall also require monthly and annual reporting during construction and decommissioning, which shall identify weeds found, the control mechanisms used, and the success of the effort. For additional details on reporting, see MM BIO-1a. The Lead Biologist shall oversee timely implementation of

the IWMP and manual or chemical removal measures to control or eradicate invasive weeds.

MM BIO-1e **Revegetation.** The Applicant shall prepare and implement a Revegetation Plan, to be submitted to the CSLC staff for review and approval a minimum of 60 days prior to the start of construction activities. The Plan shall be implemented in areas temporarily impacted during construction and operation. Any additional acreage disturbed during O&M or decommissioning will also be subject to revegetation according to the terms of the Revegetation Plan. The Lead Biologist shall oversee implementation of the Revegetation Plan to meet success criteria and prevent further degradation of areas temporarily disturbed by project activities. Pre-disturbance habitat values would not be restored, but off-site compensation would offset the loss in habitat value.

The revegetation Plan shall detail the methods to implement the following restoration/revegetation requirements.

- **Revegetation of temporarily impacted sites.** Upon completion of construction, areas that are temporarily impacted during construction will be revegetated with native desert species. The Revegetation Plan shall specify methods to prevent or minimize further site degradation; stabilize soils; maximize the likelihood of vegetation recovery over time (for areas supporting native vegetation); and minimize soil erosion, dust generation, and weed invasions. The nature of revegetation shall differ according to each disturbed area, its pre-disturbance condition, and the nature of the construction disturbance. The Revegetation Plan shall include: (a) soil preparation measures, including locations and methods of recontouring, decompacting, imprinting, or other treatments; (b) details for topsoil storage, as applicable; (c) plant material collection and acquisition guidelines, including guidelines for salvaging, storing, and handling plants from the project site, as well as obtaining replacement plants from outside the project area (plant materials shall be limited to locally occurring native species from local sources); (d) a plan drawing or schematic depicting the temporary disturbance areas (drawing of “typical” gen-tie structure sites will be appropriate); (e) time of year that the planting or seeding will occur and the methodology of the planting; (f) a description of the irrigation, if used; (g) success criteria; and (h) a monitoring program to measure the success criteria, commensurate with the Plan’s goals, (i) contingency measures for failed revegetation efforts not meeting success criteria.

MM BIO-1f **Protect Important Plants.** Due to the Joshua tree’s CESA status as a candidate for listing, and the Beaver Indian breadroot (CRPR 1B) occurrence within the proposed SCE Calcite Facilities area, the Applicant will reduce Project effects on Joshua tree and Beaver Indian breadroot impacts through one or a combination of the following strategies. If the California Fish and Game Commission determines that Joshua tree listing is not warranted and the western Joshua tree is neither a candidate for listing nor elevated to CRPR 1B status prior to the start of solar field construction, then Joshua tree impacts would be mitigated through habitat compensation (MM BIO-1g: Compensate for Loss of Natural Habitat) and the following measures would not be required.

- **Avoidance.** Where Joshua trees or Beaver Indian breadroot exist within the project fenceline but are not within the disturbance footprint of the solar arrays or

support facilities, project site preparation and construction shall minimize impacts by minimizing or avoiding soil compaction within a radius of 10 feet (3 meters) surrounding each plant.

- **Salvage of Joshua Tree and Beaver Indian breadroot.** The Applicant shall consult with a qualified horticulture specialist regarding the success of salvage efforts for these species. If the strategy has been shown to be feasible and certain Joshua trees and/or breadroot have been judged suitable for relocation, the Applicant shall prepare and implement a Salvage and Relocation Plan (SRP) for Joshua Tree or Beaver Indian breadroot (as applicable based on presence of these plants), to be submitted to CSLC staff for review and approval at least 60 days prior to disturbance of any occupied habitat. The Applicant shall contract with a qualified entity with experience and qualifications, to salvage the Joshua trees or Beaver Indian breadroot judged suitable for relocation, and transfer them to a suitable location outside the project footprint. The Lead Biologist shall oversee implementation of the SRP. The SRP shall include methods to salvage and replant Joshua tree and breadroot specimens found on the site; define the season for salvaging the plants; specify methods for salvage, storage, and re-planting them; define locations for re- planting; and state appropriate monitoring and success criteria for the salvage work. Planting sites shall be selected in coordination with the CSLC and CDFW to ensure avoidance of excessive disturbance to existing habitat. For Joshua trees, planting sites will be prioritized as follows:
    1. Temporary disturbance areas within the Project site schedules for revegetation or restoration.
    2. Previously disturbed areas within suitable habitat on off-site public lands.
    3. Previously disturbed areas within suitable habitat on off-site private lands.
    4. Landscaping sites on public lands (e.g., public parks).
    5. Landscaping sites on private lands.
- **Horticultural Propagation and Off-site Introduction.** If the CSLC, in coordination with CDFW and the Applicant, agree that salvage and relocation is not feasible for Joshua trees or Beaver Indian breadroot, then the Applicant shall consult with a qualified entity, to develop and implement an appropriate experimental propagation and relocation strategy.

MM BIO-1g **Compensate for Loss of Natural Habitat.** The Applicant shall acquire and protect, in perpetuity, compensation habitat to offset loss of natural habitat. Habitat acquisition and protection may be conducted through a CDFW approved mitigation bank or another approved third party, or may be carried out by the Applicant itself (with CDFW approval). The preliminary acreages are presented in Table 4.3-1 of the *Stagecoach Solar Project Draft EIR*, but final acreages shall be based upon final calculation of impacted acreage for the approved project design. Acreages will be adjusted as appropriate for the approved alternative and for design modifications made after approval.

Compensation shall be provided for impacts to the following resources, at the specified ratios (acres acquired and preserved to acres impacted):

Desert tortoise habitat. Suitable desert tortoise habitat is found throughout the proposed solar generation plant site, gen-tie route, and SCE Calcite Facilities area. Compensation for loss of this habitat shall be at a 1:1 ratio (i.e., one acre of compensation habitat of comparable quality for each acre of permanent or temporary disturbance).

Joshua tree woodland and Indian breadroot habitat. Compensation shall be at a 1.5:1 ratio (i.e., 1.5 acres of occupied compensation habitat for each acre of impacted occupied habitat), and based on the acreage of occupied Joshua trees or Indian breadroot habitat lost in Project construction. Occupied habitat will be defined either according to the definition used by the CDFW Incidental Take Permit (ITP) or, if there is no ITP, as a 200-foot radius surrounding all Joshua trees or Indian breadroot plants. Compensation habitat must support the target species in densities comparable to the habitat lost during construction. If compensation habitat with comparable densities of the target plants is not available, greater acreage will be required so that sufficient habitat shall be acquired to protect 1.5 Joshua trees or Indian breadroots for each individual removed for construction. Any compensation habitat for these plants that is also suitable habitat for desert tortoise will be credited toward the overall desert tortoise habitat compensation requirement.

If any additional acreage of desert tortoise habitat or Joshua tree woodland is disturbed during O&M or decommissioning, that disturbance will also be compensated at the same ratios unless those resources are no longer considered sensitive at that time.

Criteria for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands shall include all the following: Provide habitat value that is comparable to the habitat impacted, taking into consideration soils, vegetation, topography, human-related disturbance, invasive species, wildlife movement opportunity, proximity to other protected lands, management feasibility, and other habitat values. Mitigation may be “nested” or “layered,” to the extent that it meets habitat requirements for multiple species that will or may be impacted by the Project.

The Applicant shall provide funding or bonding for the acquisition in fee title or in easement, initial habitat improvements and long-term maintenance and management of the compensation lands prior to construction activities on native habitat. Within 18 months of completing construction, the Applicant or an approved third party shall prepare a compensation plan, identifying the proposed mitigation bank or compensation lands, and specifying the land ownership, conservation easement terms, long-term management, and responsibility for funding or endowment. The compensation plan shall be submitted for review and approval to the CSLC. The CSLC shall consult with CDFW and USFWS to ensure that the mitigation will support any permits and authorizations to be issued by either agency.

MM BIO-3a **Protect Wildlife Resources.** Pre-construction surveys would identify sensitive wildlife to ensure they are avoided and allowed to escape work areas. Temporary or permanent exclusion fencing around equipment, work areas, and solar generation plant and avoidance buffers around sensitive resources would minimize wildlife exposure to hazards and avoid direct impacts such as crushing and burial. Direct mortality from vehicle strikes would be minimized with vehicle inspections and

restrictions on speed limits. Indirect impacts would be minimized and avoided with restrictions on night lighting, toxic substances, and noise and vibration levels. Work area inspections would minimize mortality due to trapping in open pits, trenches, and excavation areas. Proper disposal of trash would minimize impacts due to human presence and opportunistic predators. Securing trash, water sources, and construction equipment and materials would avoid attracting and entrapping wildlife.

MM BIO-3b **Relocate Special-status Wildlife Species.** Wildlife Relocation Plan would guide relocation activities in accordance with USFWS and CDFW guidelines for special-status wildlife species including (but not limited to), desert tortoise, burrowing owl, desert kit fox, and American badger. Relocation of wildlife outside the disturbance areas would avoid direct mortality from crushing or burial of individuals or burrows and dens during construction.

MM BIO-3c **Protect Desert Tortoise.** Desert tortoise pre-construction clearance surveys, compliance monitoring, and inspections would avoid direct impacts to desert tortoise due to crushing, burial, vehicle strikes, and entrapment in pits or trenches. Temporary and permanent exclusion fencing will minimize desert tortoise entry into work areas and encounters with human activity, vehicles, and equipment. Approved relocation of desert tortoises from active burrows in work areas would avoid direct impacts during construction.

MM BIO-3d **Protect Desert Kit Fox and American Badger.** Pre-construction surveys for individuals and dens, pre-construction monitoring of potentially active dens, and buffers, avoidance, and relocation of individuals in work areas would avoid direct mortality of desert kit fox and American Badger during construction.

MM BIO-3e **Avoid Effects on Burrowing Owl.** Pre-construction surveys for individuals, sign, and active burrows; avoidance buffers around active burrows; and avoidance of nesting season (February 1 through August 31) would avoid direct mortality of burrowing owl during construction.

MM BIO-3f **Bird and Bat Protection.** The Applicant shall prepare and implement a Bird and Bat Conservation Strategy (BBCS), including pre-construction nesting surveys, avoidance buffers around nests, and avoidance of vegetation removal during nesting season (January 1 to August 15), to minimize direct loss of nests and young by avoiding and restricting activity around active nests. The BBCS will identify potential hazards to birds during construction, O&M, and decommissioning, and specify bird and bat mortality monitoring procedures to document the severity of potential hazards. The BBCS will specify bird and bat mortality thresholds and identify adaptive management measures to be implemented if the thresholds are exceeded.

Additionally, MM BIO-3f requires the Applicant to prepare a Nesting Bird Management Plan (NBMP) to protect nesting birds, including golden eagles, by specifying performance standards such as avian biologist qualifications, pre- construction field survey scheduling, and assessment of potential impacts according to species and project activities. It also establishes a standard buffer distance with specific measures for adjusting the distance according to circumstances, and a method to amend the Plan if needed.

MM BIO-3g **Implement Protective Designs for Collector Line and Gen-tie Lines.** Solar generation plant collector lines, gen-tie lines, or other energized electrical components

shall be designed in compliance with current APLIC standards and practices (APLIC 2012; APLIC 2006) to minimize collision and electrocution hazard. Design requirements would include discouraging use by raptors for perching or nesting, mechanisms to visually warn birds (permanent markers or bird flight diverters) on power lines, and sufficient distance between all conductors and grounded components to prevent potential for electrocution of the largest birds that may occur in the area (e.g., golden eagle and turkey vulture).

MM HAZ-1 **Hazardous Materials Training and Management Plan** (Section 4.9, Hazards and Hazardous Materials of the *Stagecoach Solar Project Draft EIR*)

MM NOI-1 **Minimize Noise During Construction.** (Section 4.12, Noise and Vibration of the *Stagecoach Solar Project Draft EIR*)

MM ALG-5 **Minimize Night Lighting at Project Facilities.** (Section 4.1, Aesthetics/Light and Glare of the *Stagecoach Solar Project Draft EIR*)

MM TRA-1 **Construction Traffic Control Plan.** (Section 4.17, Traffic and Transportation of the *Stagecoach Solar Project Draft EIR*)

Significance after Mitigation

SIENNA PROJECT

Construction of the Sienna Project has the potential to directly impact special-status plant and wildlife species. However, implementation of Mitigation Measures BIO-1 through BIO-7 would reduce potential impacts to a less than significant level.

CALCITE SUBSTATION

With implementation of MM BIO-1a through BIO-1g, MM BIO-3a through BIO-3g, MM NOI-1a, MM ALG-5, MM HAZ-1, and MM TRA-1 as described in the *Stagecoach Solar Project Draft EIR*, potential impacts associated with impacting special-status plant and wildlife species would be reduced to a less than significant level.

Impact 3.5-2 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 CDFW or USFWS?

SIENNA PROJECT

No Impact. As mentioned in Section 3.5.1 above, no sensitive natural community occurs on the Sienna Project site. Therefore, no impacts to sensitive natural community would occur as a result of the Sienna Project.

CALCITE SUBSTATION

No Impact. According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), no riparian vegetation or sensitive communities occur within the Calcite Substation facilities area and no impact would occur (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated riparian habitat or other sensitive natural communities. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

No impact would occur. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.5-3 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, filing, hydrological interruption, or other means?

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As mentioned in Section 3.5.1 above, the JDR prepared for the Sienna Project (Appendix E of this EIR) identified a total of 33 stream segments, 4 retention basins, and 1 isolated wetland within the Sienna Project area. In addition, a number of ephemeral streams, classified as riverine and intermittently flooded streambeds, surround the dry lakebed. In these areas, most of the streambeds are depicted as connecting to the dry lakebed. However, as discussed above, field observations indicate that the streams onsite lack a clear surface connection via defined channels with bed and bank to the dry lakebed and flows dissipate to sheet flow before entering the lake. Additionally, the USACE considered Lucerne Dry Lake in an AJD for the Granite Mountain Wind Project (Appendix E of this EIR), and found that it is a dry lake, not a traditional lake, due to the general lack of surface water precluding use for harvesting fish or shellfish. Therefore, only the retention basins and leaked pipe within the dry lakebed were delineated as CDFW and/or RWQCB-jurisdictional features.

Nonetheless, the ephemeral streams and drainages observed within the Sienna Project area may be subject to RWQCB and CDFW jurisdiction, and direct impacts to these jurisdictional features would be considered potentially significant. However, implementation of Mitigation Measure BIO-8, which would ensure jurisdictional features are avoided where possible, would reduce potentially significant impacts to jurisdictional waters to a less than significant level. Impacts are considered less than significant after mitigation has been incorporated.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. Within the Calcite Substation area, 12 features were delineated as non-wetland waters subject to the jurisdiction of the RWQCB and potential streambeds subject to the jurisdiction of the CDFW. However, these features are not federally jurisdictional due to the Lucerne Dry Lake closed drainage basin having no surface water connection to the interstate waters or navigable waters. Additionally, no wetlands are present on the Calcite Substation site.

Nonetheless, the proposed Calcite Substation would impact State-jurisdictional features as proposed construction, O&M activities, and decommissioning would directly and indirectly impact waters along ephemeral and sparsely vegetated washes. Approximately 0.7 acres of jurisdictional waters would be impacted, but with implementation of aforementioned MM BIO-1a through BIO-1g, MM BIO-7a, and MM HAZ-1, impacts would be less than significant and jurisdictional waters would not be substantially impacted (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with jurisdictional waters. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

BIO-8 **Avoidance and Minimization.** Jurisdictional features (ephemeral drainages) identified in the delineation shall be avoided where possible. If all waters of the U.S and waters of the State can be avoided, no further mitigation is recommended. Any activities that would result in impacts to waters of the U.S. and/or waters of the State will be required to receive issuance of regulatory permits from USACE, CDFW and/or RWQCB. If regulatory permits are required, the Project applicant shall submit a copy of issued regulatory permits to the San Bernardino County Land Use Services Department, Planning Division, prior to issuance of a grading permit. If the Project will directly impact waters of U.S. for waters of the State, the following measures shall be implemented to reduce impacts to less than significant.

- Any material/spoils generated from Project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.
- Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the Project foreman or designated environmental representative will be notified.
- Compensatory mitigation to offset permanent impacts to waters of the State. Mitigation shall occur at a minimum ratio of 1:1 through the establishment of a conservation easement, restoration of existing habitat and/or payment of in-leu fees. A Compensatory Mitigation and Restoration Plan is recommended for inclusion with agency permit applications that are proposing on-site restoration and shall include the following components:
    - A description of the purpose and goals of the mitigation Project including the improvement of specific physical, chemical, and/or biological functions at the mitigation site.

- A description of the plant community type(s) and amount(s) that will be provided by the mitigation and how the mitigation method will achieve the mitigation Project goals.
- A description of the mitigation site, including a site plan of the location and rationale for site selection.
- A plant palette and methods of salvaging, propagating, and planting the site to be restored.
- Methods of soil preparation.
- Best Management Practices (BMPs) that will be utilized to avoid erosion and excessive runoff before plant establishment.
- Maintenance and monitoring necessary to ensure that the restored plant communities meet the success criteria.
- Schedule for restoration activities including weed abatement, propagating and planting, soil preparation, irrigation, erosion control, qualitative and quantitative monitoring, and reporting to the County. Identification of measurable performance standards for each objective to evaluate the success of the compensatory mitigation.
- Identification of contingency and adaptive management measures to address unforeseen changes in site conditions or other components of the mitigation Project. Or,

If off-site mitigation is proposed, the following measure would apply:

- Identification of an appropriate mitigation bank and the purchase of credits commensurate with the type of impacts associated with the Project.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM BIO-1a **Implement Biological Monitoring** (as previously described under Impact 3.5-1)

MM BIO-1b **Implement Worker Environmental Awareness Training** (as previously described under Impact 3.5-1)

MM BIO-1c **Minimize Impact and Protect Identified Vegetation and Habitat** (as previously described under Impact 3.5-1)

MM BIO-1d **Weed Management** (as previously described under Impact 3.5-1)

MM BIO-1e **Revegetation** (as previously described under Impact 3.5-1)

MM BIO-1f **Protect Important Plants** (as previously described under Impact 3.5-1)

MM BIO-1g **Compensate for Loss of Natural Habitat** (as previously described under Impact 3.5-1)

MM BIO-7a **Protect Streambeds and Watersheds.** Implementation of BMPs would prevent or minimize hazardous materials, construction debris, and mud, silt, or pollutants from entering drainages. Prohibiting maintenance and storage of vehicles in and near

waters, containment kits, buffers around equipment maintenance, and immediate spill cleanup would be used to prevent oil leaks from contaminating waters. A Lake and Streambed Alteration Agreement (LSAA) from the CDFW and any applicable authorization from the RWQCB would direct BMPs and monitoring to avoid and minimize impacts to jurisdictional waters.

MM HAZ-1 **Hazardous Materials Training and Management Plan** (Section 4.9, Hazards and Hazardous Materials of the *Stagecoach Solar Project Draft EIR*)

Significance after Mitigation

SIENNA PROJECT

Project construction associated with the Sienna Project has the potential to directly impact multiple ephemeral streams and drainages. However, implementation of Mitigation Measure BIO-8 would reduce potential impacts to a less than significant level.

CALCITE SUBSTATION

With implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-7a, and HAZ-1, as described in the *Stagecoach Solar Project Draft EIR*, potential impacts associated with jurisdictional waters would be reduced to a less than significant level.

Impact 3.5-4 ***Would the Project interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

SIENNA PROJECT

Less than Significant Impact. As mentioned in Section 3.5.1 above, the Sienna Project area is bordered to the north by mountains, to the west by mountains and dry lakebed, and to the east and south by minor development. Local wildlife likely use the natural habitats at the base of the hills to the west and drainage features including those within the Sienna Project area for movement. However, development of the Sienna Project would not create a significant barrier for wildlife movement. The Sienna Project area does not occur within a corridor that links between or among larger habitat areas on a local or regional basis. In addition, the Sienna Project is not within any areas mapped as Essential Connectivity Areas by the California Essential Habitat Connectivity Project (Appendix D1 of this EIR). As such, impacts are be considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. Due to the relatively small footprint of the Calcite Substation and the extensive surrounding open space, the Calcite Substation would create minimal interference with wildlife movement. No wildlife populations would be cut off from surrounding habitat and access to nursery sites within or beyond the fenced area of the Calcite Substation would be minimally impeded. The Calcite Substation site is located adjacent to BLM ACECs – the surrounding ACECs are managed to protect wildlife habitat and wildlife movement. Project construction, O&M activities, and decommissioning of the Calcite Substation would not substantially interfere with wildlife movement or the BLM ACECs. As such, impacts would be less than significant and no mitigation would be required (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with wildlife movement. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.5-5 Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

SIENNA PROJECT

Less than Significant Impact. Silver cholla, protected under the CDNPA, was observed only in the northern (APN 0452-391-08) and eastern portion (APNs 0452-361-46, -47, and 0452-371-01) of the Sienna Project area (Figure 3.5-2). A total of 22 cacti were tallied in the northern (APN 0452-391-08) and 61 in the eastern portion (APNs 0452-361-46, -47, and 0452-371-01) of the Sienna Project area for a total tally of 83 silver cholla. Direct impacts 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.

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. The Sienna Project is subject to Section 88.01.060, Desert Native Plant Protection, San Bernardino County Development Code, established to comply with the CDNPA. Removal actions of all plants protected or regulated by the CDNPA shall comply with the provisions of the Act before the issuance of a development permit or approval of a land use application. Compliance with Section 88.01.060, Desert Native Plant Protection, San Bernardino County Development Code, would ensure the Sienna Project's impact on silver cholla would be less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. The proposed Calcite Substation would be owned and operated by SCE and permitted by the CPUC. While the CPUC approval supersedes requirements of local policies, the CPUC does consider local policies in its decisions. All potentially

significant impacts to biological resources in the Project area, including the resources identified and protected in the County Policy Plan, have been identified and would be minimized with MM BIO-1a through BIO-1g, BIO-3a, BIO-3c, BIO-3f through BIO-3g, and BIO-7a. With implementation of these mitigation measures, impacts associated with conflicting with local policies or ordinances would be considered less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential conflict with policies or ordinances. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM BIO-1a **Implement Biological Monitoring** (as previously described under Impact 3.5-1)

MM BIO-1b **Implement Worker Environmental Awareness Training** (as previously described under Impact 3.5-1)

MM BIO-1c **Minimize Impact and Protect Identified Vegetation and Habitat** (as previously described under Impact 3.5-1)

MM BIO-1d **Weed Management** (as previously described under Impact 3.5-1)

MM BIO-1e **Revegetation** (as previously described under Impact 3.5-1)

MM BIO-1f **Protect Important Plants** (as previously described under Impact 3.5-1)

MM BIO-1g **Compensate for Loss of Natural Habitat** (as previously described under Impact 3.5-1)

MM BIO-3a **Protect Wildlife Resources** (as previously described under Impact 3.5-1)

MM BIO-3c **Protect Desert Tortoise**(as previously described under Impact 3.5-1)

MM BIO-3f **Bird and Bat Protection**(as previously described under Impact 3.5-1)

MM BIO-3g **Implement Protective Designs for Collector Line and Gen-tie Lines** (as previously described under Impact 3.5-1)

MM BIO-7a **Protect Streambeds and Watersheds**(as previously described under Impact 3.5-1)

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-3c, BIO-3f through BIO-3g, and BIO-7a, as described in Section 4.3, Biological Resources, of the *Stagecoach Solar*

Project Draft EIR, potential impacts associated with conflict between local policies or ordinances protecting biological resources would be reduced to a less than significant level.

Impact 3.5-6 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?

SIENNA PROJECT

No Impact. The Sienna Project area is located within the boundaries of the DRECP. The Project area is also within the boundaries of the *West Mojave Plan*. Both of these plans are applicable to projects on public lands (e.g., BLM). However, the Sienna Project area occurs entirely on private land and is not located within any other local, regional, or State conservation planning area. Therefore, the Sienna Project would not conflict with any adopted Habitat Conservation Plan (HCP), Natural Conservation Community Plan (NCCP), or other approved local, regional, or State habitat conservation plans. No impact would occur.

CALCITE SUBSTATION

No Impact. According to Section 4.3, Biological Resources, of the *Stagecoach Solar Project Draft EIR,* the Calcite Substation site is not located within the boundaries of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan. In addition, the Calcite Substation site is not located within the proposed Apple Valley MSHCP/NCCP boundary. As such, there is no potential to conflict with such plans and no impact would occur (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with a conflict with any adopted Habitat Conservation Plans. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

No impact would occur. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

This page is intentionally blank.

3.6 Cultural Resources

This section addresses the Project's potential impacts in relation to cultural resources, including historical resources, archaeological resources, and human remains. This section discusses and identifies the existing cultural resources within and surrounding the Project site, analyzes potential impacts of the proposed Project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed Project. Information for this section is summarized from the *Cultural Resources Study* prepared by Rincon Consultants, Inc. (Appendix F of this EIR). The cultural resources inventory included a records search, literature review, and pedestrian survey. Due to confidential information contained in the *Cultural Resources Study*, the report is not available for public review.

Information for the proposed Calcite Substation is summarized from the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.6.1 Existing Conditions

Sienna Project

Cultural Setting

A detailed summary of the prehistoric and historic settings of the Project location can be found in the *Cultural Resources Study* prepared by Rincon Consultants, Inc. (Appendix F of this EIR).

Background and Archival Research

RECORDS SEARCH

A search of cultural resources records housed at the California Historical Resources Information System (CHRIS), South Central Coastal Information Center (SCCIC) located at the California State University, Fullerton was conducted on July 9, 2021. The search was conducted to identify previous cultural resources work and previously recorded cultural resources within a 0.5-mile radius of the Sienna Project area. The CHRIS search included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list.

Known Cultural Resources Studies. The SCCIC records search identified 12 cultural resources studies that have been conducted within a 0.5-mile radius of the Sienna Project area. Of these studies, six overlapped with the Sienna Project area.

Known Cultural Resources. Forty previously-recorded cultural resources have been identified within a 0.5-mile radius of the Sienna Project area, 11 of which are located within the Sienna Project area. Table 3.6-1 summarizes the 11 known cultural resources located within the Sienna Project area. Four resources (P-36-014876; P-36-027410; P-36-027752; and P-36-027757) were found eligible for the NRHP and CRHR.

Table 3.6-1. Known Cultural Resources within the Sienna Project Site

Primary Number	Resource Type	Description	NRHP/CRHR Status
P-36-014876	Historical Site	SCE Lugo-Pisgah No. 1 220 kV Transmission Line	Recommended Eligible
P-36-021200	Historical Site	Prospecting pit and refuse scatter	Not Eligible
P-36-024157	Historical Site	Fern Road	Unevaluated
P-36-024224	Historical Site	Chuckwalla Road	Not Eligible
P-36-027410	Historical Site	Barstow Road/SR 247	Recommended Eligible
P-36-027752	Historical Site	Eldorado-Lugo 500kV Transmission Line	Recommended Eligible
P-36-027757	Historical Site	Lugo-Mojave 500kV Transmission Line	Recommended Eligible
P-36-028357	Historical Site	Huff Road	Unevaluated
P-36-028365	Historical Site	Meridian Road	Unevaluated
P-36-029899	Prehistoric Isolate	One obsidian flake	Unevaluated
P-36-032694	Historical Site	Historic refuse scatter	Not Eligible

Source: Appendix F of this EIR

For informational purposes, the County of San Bernardino also requested a records search from SCCIC within a 1-mile radius of the Sienna Project area. On February 23, 2023, the SCCIC provided the results from the records search, which are summarized in Table 3.6-2.

Table 3.6-2. Records Search Results Summary

Archaeological Resources	Within Project area: 27 Within Project radius: 51
Built Environment Resources	Within Project area: 3 Within Project radius: 2
Reports and Studies	Within Project area: 6 Within Project radius: 9
California Office of Historic Preservation Built Environment Resources Directory 2019	Within Project area: 0 Within 1/4 radius: 0
California Points of Historical Interest 2019	Within Project area: 0 Within 1/4 radius: 0
California Historical Landmarks 2019	Within Project area: 0 Within 1/4 radius: 0
California Register of Historical Resources 2019	Within Project area: 0 Within 1/4 radius: 0
National Register of Historic Places 2019	Within Project area: 0 Within 1/4 radius: 0
Archaeological Determinations of Eligibility 2012	Within Project area: 1 Within Project radius: 2

ARCHIVAL RESEARCH

Archival research was conducted from August through October of 2021. A variety of primary and secondary source materials were consulted. Sources included, but were not limited to, historical maps, aerial photographs, and written histories of the area. The following sources were utilized to develop an understanding of the Sienna Project area and its context:

- San Bernardino County Assessor's Office;
- United States Department of the Interior Bureau of Land Management (BLM) General Land Office (GLO) Records;
- Historical aerial photographs accessed via National Environmental Title Research (NETR) Online;
- Historical aerial photographs accessed via University of California, Santa Barbara Library FrameFinder;
- Historical USGS topographic maps;
- National Archives at Riverside, Riverside, California; and
- Historical newspaper clippings obtained from Newspapers.com, ProQuest Historical Newspapers.com, and the California Digital Newspaper Collection.

SACRED LANDS FILE SEARCH

Rincon contacted the Native American Heritage Council (NAHC) on August 6, 2021 to request a Sacred Lands File (SLF) search. The NAHC sent a response on September 3, 2021, stating that a search of the SLF was completed with negative results.

Field Survey

ARCHAEOLOGICAL RESOURCES SURVEY

Two archaeological field surveys of the Sienna Project area were conducted between July 21 and July 30 and between September 16 and September 20, 2021. The archaeologists surveyed the Sienna Project area using transects spaced 15 meters apart. The archaeologists examined exposed ground surface for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances, such as burrows and drainages, were visually inspected (Appendix F of this EIR).

Three previously known archaeological resources (one isolate and two sites) were present in the Sienna Project area. All three resources were deemed ineligible for NRHP and CRHR listing. In addition to the three previously-recorded archaeological resource, 38 new archaeological resources were identified and recorded during the survey, including 15 isolates (4 prehistoric, 11 historical) and 23 sites (1 prehistoric, 1 multicomponent, and 21 historical). Of the 38 new archaeological resources identified and recorded during the survey, 1 prehistoric lithic scatter (Sienna S-8) and 1 multicomponent lithic and refuse scatter (Sienna S-28) may require testing to determine NRHP/CRHR eligibility. Resources Sienna S-8 and Sienna S-28 are described below.

Sienna S-8. Sienna-S-8 is a large lithic scatter containing 65 cryptocrystalline silicate (CCS) tertiary flakes and 2 basalt tertiary flakes. This site likely represents a short-term occupation and single lithic-reduction event that involved the resharpening and/or rejuvenation of multiple chipped stone implements based on the variety of material types and dominance of biface thinning flakes at the site. Because this resource is located on sandy valley floor with potential for buried deposits, testing may be required to determine NRHP/CRHR eligibility.

Sienna S-28. Sienna-S-28 is a multicomponent site containing six prehistoric lithic flakes (materials include CCS, obsidian, and metavolcanic), a mid-stage rhyolite biface, a rhyolite Pinto Series projectile point, a basalt scraper, a granitic metate fragment, and a moderate-density historical refuse scatter. Flake types noted at the site appear to represent early to late-stage reduction. Some large metavolcanic flakes present at the site indicate core preparation while some late-stage CCS flakes (possible biface thinning flakes) indicates that late-stage biface reduction also occurred at the site. The presence of a Pinto Series point indicates this site dates to the terminal Early Holocene or Middle Holocene between approximately 8,000 and 5,000 cal BP (Sutton et al. 2007). This prehistoric component of the resource likely represents a short-term camp site with an associated lithic reduction and rejuvenation event. Because this resource is located on sandy valley floor with potential for buried deposits, testing may be required to determine NRHP/CRHR eligibility.

BUILT ENVIRONMENT SURVEY

A built environment survey of the Sienna Project area was conducted. The built environment resources within the Sienna Project area, including buildings and structures were visually inspected. Pursuant to California Office of Historic Preservation Guidelines (California OHP 1995:2), properties over 45 years of age were evaluated for inclusion in the NRHP, CRHR, and local listing and recorded on DPR 523 series forms (Appendix F of this EIR). Overall condition and integrity of these resources were documented and assessed. Site characteristics and conditions were documented using notes and digital photographs which are maintained at the Rincon San Diego office. It should be noted that the roads within the Sienna Project area that were surveyed were not formally evaluated as the Sienna Project does not include alterations to the roads or any substantial changes to their setting (Appendix F of this EIR).

Eight previously recorded built environment resources (three transmission lines and five roads) are present in the Sienna Project area. The eight resources were relocated and found to be in a similar condition as their previous recording. Table 3.6-3 lists all previously known resources and their updated NRHP and CRHR eligibility status. Four of these resources were recommended eligible for NRHP/CRHR.

In addition to the eight previously-recorded built environment resources, the field work and background research resulted in the identification of 10 historic-age (at least 45 years old) resources (five properties, four roads, and one transmission line) within the Sienna Project area. The five properties, four roads, and one transmission line were recorded on DPR 523 series forms. Only the properties and the transmission line (SCE Lugo-Pisgah No. 2 220 KV transmission line) were evaluated for historical resources eligibility. As the Sienna Project does not entail alteration to the roads recorded in the Sienna Project area and no impact will occur, they were not evaluated as part of the Sienna Project. Only the transmission line (SCE Lugo-Pisgah No. 2 220 KV transmission line) was found eligible for listing in the NRHP and CRHR.

Table 3.6-3. Known Built Environment Resources within the Sienna Project Site

Primary Number	Description	Previous Eligibility Recommendations	Rincon's Eligibility Recommendation
P-36-014876	SCE Lugo-Pisgah No. 1 220 kV Transmission Line	Recommended Eligible	Recommended Eligible
P-36-024157	Fern Road	Unevaluated	Unevaluated
P-36-024224	Chuckwalla Road	Recommended Ineligible	Recommended Ineligible
P-36-027410	Barstow Road/SR 247	Recommended Eligible	Recommended Eligible
P-36-027752	SCE Eldorado-Lugo 500kV Transmission Line	Recommended Eligible	Recommended Eligible
P-36-027757	SCE Lugo-Mojave 500kV Transmission Line	Recommended Eligible	Recommended Eligible
P-36-028357	Huff Road	Unevaluated	Unevaluated
P-36-028365	Meridian Road	Unevaluated	Unevaluated

Source: Appendix F of this EIR

Calcite Substation

Background and Archival Research

According to Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), ICF International (ICF) conducted the initial cultural resources literature review and records search for the Calcite Substation site in 2016 under contract with Southern California Edison (SCE) and Dudek provided a summary of previous work in 2016. A supplemental record search was conducted by Aspen in 2020. Both record searches were conducted at the SCCIC, housed at California State University, Fullerton, and a historical map review was also completed. This search was limited to resources and reports within a 1-mile radius of the Calcite Substation. The literature review and records search materials contained information on any prehistoric or historic era cultural resource previously recorded within the Calcite Substation site and 1-mile radius. Additional sources consulted during the cultural resource literature review and records search include the Office of Historic Preservation Archaeological Determinations of Eligibility and the Office of Historic Preservation Directory of Properties in the Historic Property Data File (California State Lands Commission 2021).

The literature review and record search conducted by ICF in 2016 identified 71 previously identified cultural resources and 7 cultural resource studies in the record search area (Proposed Project and 1-mile buffer). Of the 71 previously identified resources, 58 known resources fall within the 1-mile buffer. Of the 58 resources, 12 resources have been recommended eligible for the NRHP and CRHR and would be subject to indirect impacts. Aspen conducted a record search for the gen-tie line, and as the two Proposed Project elements overlap where they connect, the Aspen record search supplements the ICF results. As a result, the combined record searches identified a total of eight previously recorded resources within the SCE Calcite Facilities footprint. Of these eight resources, five are historic era sites, one is a historic era isolate, and two are prehistoric isolates (California State Lands Commission 2021).

SACRED LANDS FILE SEARCH

According to Section 4.5, Cultural Resources - Tribal, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the records search and the NAHC sacred lands file results did not indicate the

existence of areas of significance within the proposed Calcite Substation area (California State Lands Commission 2021).

Field Survey

In 2016, both ICF and Dudek surveyed the Calcite Substation site, and in 2020, Aspen surveyed a portion of the site that was associated with the Stagecoach Gen-tie Line. These intensive pedestrian field surveys were conducted in order to verify the location of any previously identified cultural resources and to inspect previously unsurveyed lands within the Calcite Substation area (California State Lands Commission 2021).

The intensive pedestrian survey conducted by ICF, and the supplemental survey conducted by Aspen, identified a total of three new historic era isolated resources and one prehistoric site. Six historic era sites that were previously identified were found, including roads, a well, large trash scatters, and the Lugo-Pisgah transmission line.

The only resource found during the intensive pedestrian surveys that is considered eligible for the CRHR is the prehistoric site 3380-13. The site is located near the former northern shoreline of Pleistocene Lake Lucerne. Resources previously documented in this portion of the valley include a much larger distribution of prehistoric artifacts recorded as isolates in close proximity to the old lakeshore than are recorded elsewhere in the Proposed Project area. No studies of early Holocene occupation have yet been undertaken for the Lucerne Valley, and the paleoenvironmental context of Pleistocene Lake Lucerne is not well studied, although researchers posit that, based on its similarity to other more well understood lakes, that the paleoenvironments of Lake Lucerne may have supported Late Pleistocene to Early Holocene flora, fauna, and human populations (California State Lands Commission 2021).

The Lugo-Pisgah No. 1 220 kV transmission line was recorded by URS in 2008 and has been updated by URS in 2010, SRI in 2011, Far Western in 2013 and by Michael Brandman and Associates in 2014. The resource was evaluated for CEQA and National Historic Preservation Act (NHPA) section 106 eligibility by Pacific Legacy in 2015 and was found eligible as an individual property through survey evaluation (3S) under Criterion A/1 for its direct association with the history of the Boulder Dam/Hoover Dam construction and hydroelectric generation project and for serving as Southern California Edison’s first two lines to transmit high voltage electricity to the Los Angeles Region. Very minor modifications have been made to this transmission line over the years and it retains a high level of integrity as to design, location, materials, workmanship, feeling and association (California State Lands Commission 2021).

3.6.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

Federal

National Historic Preservation Act

Federal regulations (36 CFR Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, the National Register of Historic Places." Section 106 of the National Historic Preservation Act (NHPA) (Public Law 89-665; 80 Stat 915; USC 470, as amended) requires a federal agency with jurisdiction over a project to take into

account the effect of the project on properties included in or eligible for the NRHP, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

National Register of Historic Places

Although the Project does not have a federal nexus, properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is, therefore, presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the NHPA and is the nation's official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects. Per 36 CFR Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

Criterion A: Is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B: Is associated with the lives of persons significant in our past.

Criterion C: Embodies the distinctive characteristics of a type, period, or method of installation, 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.

Criterion D: Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service (NPS) recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined as follows:

Location: The place where the historic property was constructed or the place where the historic event occurred.

Design: The combination of elements that create the form, plan, space, structure, and style of a property.

Setting: The physical environment of a historic property.

Materials: The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property Workmanship: The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling: A property's expression of the aesthetic or historic sense of a particular period of time.

Association: The direct link between an important historic event or person and a historic property.

Certain properties are generally considered ineligible for listing in the NRHP, including cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions, relocated structures, or commemorative properties. Additionally, a property must be at least 50 years of age to be eligible for listing in the NRHP. The NPS states that 50 years is the general estimate of the time needed to develop the necessary historical perspective to evaluate significance (Appendix F of this EIR).

Properties which are less than 50 years must be determined to have “exceptional importance” to be considered eligible for NRHP listing.

State

California Office of Historic Preservation

The California Office of Historic Preservation (OHP) administers state and federal historic preservation programs and provides technical assistance to federal, state, and local government agencies, organizations, and the general public with regard to historic preservation programs designed to identify, evaluate, register, and protect California's historic resources.

Section 15064.5 of the CEQA Guidelines also requires that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code [HSC] Section 7050.5, PRC Sections 5097.94 et seq.).

CEQA Guidelines: Historical Resources Definition

CEQA Guidelines Section 15064.5(a) defines a historical resource as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4850 et seq.);
2. 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 an historical resource survey meeting the requirements Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
3. 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 an 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 the criteria for listing on the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4852) including the following:
    a. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
    b. Is associated with the lives of persons important to our past;
    c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    d. Has yielded, or may be likely to yield, information important in prehistory or history.

4. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in an 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 an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below:

1. When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).
2. If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the PRC, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the PRC do not apply.
3. If an archaeological site does not meet the criteria defined in subdivision (a),but does meet the definition of a unique archeological resource in Section 21083.2 of the PRC, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in PRC Section 21083.2 (c through f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
4. If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

CEQA Guidelines: Human Remains

Section 15064.5 of CEQA Guidelines provides specific guidance on the treatment of human remains pursuant to PRC Section 5097.98, which provides specific guidance on the disposition of Native American burials (human remains) that fall within the jurisdiction of the NAHC:

d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in PRC Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC. Action implementing such an agreement is exempt from:
    a. The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (HSC Section 7050.5).
    b. The requirements of CEQA and the Coastal Act.

e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:
    a. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

b. If the coroner determines the remains to be Native American:

   i. The coroner shall contact the NAHC within 24 hours

   ii. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American

   iii. The mostly descendent may make recommendations to the landowner of the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98, or

c. Where the following conclusions occur the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

   i. The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

   ii. The descendant fails to make a recommendation; or

   iii. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

f) As part of the objectives, criteria, and procedures required by Section 21082 of the PRC, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

California Health and Safety Code, Section 7050.5

California HSC Section 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

San Bernardino County Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The proposed Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Relevant policies and goals pertaining to cultural resources and applicable to the proposed Project are summarized below.

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.

3.6.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to cultural and archaeological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, impacts related to cultural resources are considered significant if the Project would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5; or
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or
- disturb any human remains, including those interred outside of dedicated cemeteries.

Methodology

This analysis evaluates the potential for the Sienna Project, as described in Chapter 2, Project Description, to impact cultural resources in the Sienna Project area. As previously mentioned, a *Cultural Resources Study* was prepared for the Sienna Project (Appendix F of this EIR). The information from the *Cultural Resources Study* was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with cultural resources that could result from construction associated with the Sienna Project and corresponding operational activities were evaluated qualitatively based on site conditions, expected construction practices, materials, and locations, and the duration of Project construction and related activities.

Impact Analysis

Impact 3.6-1 Would the Project cause a substantial adverse change in the significance of historical resources pursuant to §15064.5?

SIENNA PROJECT

Less than Significant Impact. Pursuant to *CEQA Guidelines* Section 15064.5 (b), substantial adverse change in the significance of a historical resource would include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired. This can occur when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR, NRHP, a local register, or historic resources.
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its identification in an historical resources survey meeting the requirements of PRC Section 5024.1(g), unless the public agency establishes by a preponderance of the evidence that the resource is not historically or culturally significant.

As stated in Section 3.6.1, the field survey and background research identified 18 historic-age built environment resources within the Sienna Project area, including segments of five transmission lines, segments of eight roads, and five residential properties. Of these 18 resources, five are eligible for listing in the NRHP and/or CRHR and are therefore considered historical resources pursuant to Section 15064.5(a) of the *CEQA Guidelines*. The eligible five resources include:

- Barstow Road/SR 247 (P-36-027410)
- SCE Lugo-Pisgah No. 1 220 kV Transmission Line (P-36-014876)
- SCE Eldorado-Lugo 500kV Transmission Line (P-36-027752)
- SCE Lugo-Mojave 500kV Transmission Line (P-36-027757)
- SCE Lugo-Pisgah No. 2 220 kV Transmission Line (Sienna S-7).

However, none of the five resources that are eligible for listing in the NRHP and/or CRHR would be significantly impacted by construction and operation of the Sienna Project. Barstow Road/SR 247 (P-36-027410) is eligible for listing in the NRHP and CRHR under Criterion A/1 for its use as the main thoroughfare in the Mojave Desert Communities during the early to mid-twentieth century. However, the Sienna Project does not propose any direct modifications to the road and would not introduce any major visual changes to its setting which would impair its ability to convey its significance. As such, implementation of the Sienna Project would not result in a significant impact to this historical resource as defined by Section 15064.5(b) of the *CEQA Guidelines*.

Additionally, construction and operation of the proposed Sienna Project would not entail the demolition or substantial alteration of any utility towers associated with the four historic transmission lines which traverse the Sienna Project area. The transmission lines extend upwards of 100 miles and the potential minor modification of some towers to accommodate new infrastructure from the proposed substation would not affect the ability any of these resources to convey the reason for their significance. Therefore, the Sienna Project would not result in a significant impact to these four historical resources as defined by Section 15064.5(b) of the *CEQA Guidelines*.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), two resources within the proposed Calcite Substation footprint are recommended eligible for the CRHR and are considered historical resources per CEQA (California State Lands Commission 2021).

Prehistoric Site 3380-13 was recommended CRHR eligible under Criterion 1, 3, and 4, but it is not within the proposed substation boundary so direct effects are not anticipated. However, avoidance of this site is important, which would be ensured primarily through implementation of MM CUL-1g (Avoidance of Environmentally Sensitive Area) as described in Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and provided below. This measure in conjunction with MM CUL-1a through CUL-1f would reduce impacts to a less than significant level (California State Lands Commission 2021).

The second historical resource that could be affected by the Calcite Substation is the SCE Lugo-Pisgah No. 1 220 kV transmission line. Looping in the existing Lugo-Pisgah No. 1 220 kV transmission line to a new substation in close proximity would not significantly impact the resource's integrity, directly or indirectly. As such, impacts to this historical resource would be considered less than significant, and no mitigation is required (California State Lands Commission 2021).

Indirect visual impacts would occur as a result of the presence of the proposed Calcite Substation. There are 12 eligible resources identified within the 1-mile indirect effects area surrounding the Calcite Substation. Of these, 11 are prehistoric period rock features (rock rings and hearths) and one resource is unknown. All 12 resources have been recommended eligible for the NRHP/CRHR under Criterion D/4. The setting of these resources has not been identified as a contributing feature to their integrity, but rather the integrity of these known rocks features was based on the artifacts observed at the surface level or sub-surface level. Construction of the Calcite Substation would not impact the integrity of these resources and they would remain eligible under Criteria D/4. Therefore, the indirect visual impact is less than significant and no mitigation is required (California State Lands Commission 2021).

If a previously unidentified resource were to be discovered during construction of the proposed Calcite Substation and determined to be eligible for listing in the CRHR, Calcite Substation Project activities could result in a change to the significance of the resource. As a result, implementation of MM CUL-1a through CUL-1f and MM TCR-1a and TCR-1b as described in the *Stagecoach Solar Project Draft EIR* and provided below would reduce potential impacts to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with historical resources. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the proposed Calcite Substation:

MM CUL-1a **Retain a Cultural Resources Specialist.** Prior to the start of construction, the Applicant shall propose a Cultural Resources Specialist (CRS) to manage and direct implementation of all cultural resources requirements during construction. The CRS shall have training and background that conforms to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61). The CRS shall be retained by the Applicant to supervise monitoring of construction excavations and to prepare the project's Cultural Resources Management Plan (see MM CUL-1b) for the approved project. The CRS shall be an archaeologist with demonstrated prior experience in the southern California desert and previous experience working with southern California Tribal Nations. A copy of the CRS' qualifications shall be provided to the CSLC for review and approval at least 60 days before the start of construction.

MM CUL-1b **Prepare and Implement a Cultural Resources Management Plan.** Prior to start of construction, the Applicant shall develop a Cultural Resource Monitoring Plan (CRMP) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant as well as address potential impacts to undiscovered buried archaeological resources and Tribal cultural resources associated with the approved Project. Specifics requirements of the CRMP are:

- The CRMP shall be provided to the CSLC and the SMBMI representative for review and approval at least 60 days before the start of construction
- The CRMP shall incorporate the results of preconstruction geoarchaeological testing including any project-related design or route changes that would successfully result in resource avoidance. Based on the geoarchaeological test results, the CRMP shall define the level of archaeological monitoring that is recommended.
- The CRMP shall specify the level of tribal participation in monitoring, the qualifications for archaeological monitors, the handling of discoveries, and the process for evaluating unanticipated resources (as defined in MM CUL-1e)
- The CRMP shall include provisions for treatment of cultural resources that are Native American in nature consistent with MM TCR-1b (Treatment of Cultural Resources; see Section 4.5, *Cultural Resources – Tribal)*

MM CUL-1c **Develop and Implement Cultural Resources Environmental Awareness Training.** Prior to ground disturbance, the CSLC-approved Cultural Resources Specialist will provide Cultural Sensitivity Training for all construction personnel. Training shall include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site. A copy of the agreement and a copy of the sign in sheet shall be kept ensuring compliance with this mitigation measure.

MM CUL-1d **Archaeological Monitoring.** Due to the heightened cultural sensitivity of the proposed project area, one or more California State Lands Commission staff- approved archaeological monitors with at least 3 years of regional experience in archaeology, shall be present for all ground-disturbing activities that occur within the approved Project area (including, but not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of archaeological monitors, under the direction of the CRS, shall be present each workday to ensure that simultaneously occurring ground disturbing activities receive appropriate levels of monitoring coverage, as defined in the CRMP (MM CUL-1b) and in MM TCR-1a (Tribal Monitoring) in Section 4.5, Cultural – Tribal Resources of the Stagecoach Solar Project EIR. The archaeological monitor(s) shall complete daily monitoring forms. The archaeological monitor(s), in coordination with the CRS, will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted.

MM CUL-1e **Unanticipated Discoveries.** If construction personnel unearth Tribal cultural resources, or precontact or historic-period archaeological resources during Project implementation, all Project activities within 100 feet will halt until the CRS or an approved archaeological monitor determines the significance of the discovery. Precontact archaeological materials/Tribal cultural resources might include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails. Historic period materials may include structural remnants (such as cement foundations), historic era objects (such as bottles and cans), and sites (such as refuse deposits or scatters).

After stopping Project activities, the approved archaeologist will determine impacts, significance, and mitigation in consultation with local Native American representatives. If the resource is a Tribal Cultural Resource, substantial adverse changes to this resource shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other equally or more effective measures are mutually agreed on by CSLC, the archaeologist, and the interested local Native American representative(s).

A treatment plan, if needed to address a find, shall be developed cooperatively by the archaeologist and, for Tribal cultural resources, the interested local Native American representative(s). The plan will be submitted to the appropriate tribal representatives and CSLC staff for review, input, and concurrence prior to its implementation.

Protection in place of Tribal cultural resources shall be prioritized, if feasible; if the archaeologist or Tribal representative determines that damaging effects on the cultural Tribal cultural resource can be avoided in place, then work in the area may resume provided the area of the find is clearly marked for no disturbance. If avoidance in place of tribal cultural resources is infeasible, the treatment plan shall include measures that place priority on Tribal self-determination over collection and curation, including the option to repatriate (rebury) materials nearby at a location of their choosing, and to transfer possession/ownership to the culturally affiliated Tribe.

Title to all archaeological sites, historical or cultural resources, and Tribal cultural resources on State-owned school lands is vested in the state and under CSLC jurisdiction. The final disposition of archaeological, historical, and Tribal cultural resources recovered on state lands under CSLC jurisdiction must be approved by the CSLC.

MM CUL-1f **Monitoring Report.** Within 6 months of completing construction, a Cultural Resources Monitoring Report shall be submitted to the CSLC. The report shall include evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting and evidence that any artifacts have been treated in accordance with procedures stipulated in the Cultural Resources Management Plan.

MM CUL-1g **Avoidance of Environmentally Sensitive Area.** SCE shall protect site 3380-13, plus a 200-foot buffer, by installing exclusion fencing or other visible markings and labeling the site as an Environmentally Sensitive Area. SCE shall ensure that this site is not affected by any construction activity.

MM TCR-1a **Tribal Monitoring.** Due to the heightened cultural sensitivity of the proposed project area, Tribal monitors representing the San Manuel Band of Mission Indians shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage.

MM TCR-1b **Treatment of Cultural Resources.** If a pre-contact cultural resource is discovered during archaeological testing or during construction, the discovery shall be properly recorded and then reburied in situ. The Cultural Resources Management Plan (defined in MM CUL-1b) shall include a research design developed by the Cultural Resources Specialist (CRS) that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department, the CRS, and the CSLC 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 archaeological significance of the resource, its potential as a Tribal Cultural Resource (TCR), avoidance (or other appropriate treatment) of the discovered resource.

If avoidance of any significant resource and/or TCR is not feasible and the removal of the resource is necessary to mitigate impacts, then a data recovery plan will be developed by the CRS in coordination with the SMBMI and CSLC. The data recovery plan will include a research design and 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. The data recovery plan must be reviewed and approved by the applicant, CSLC, and SMBMI prior to implementation, and all removed materials will be temporarily curated on-site.

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 Lead Agency, 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 cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, California Historical Resources Information System (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 appropriate 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 obligation of the Project developer/applicant 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 Lead Agency 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 Lead Agency, and SMBMI.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM CUL-1a through CUL-1g as described in Section 4.4, Cultural Resources, and MM TCR-1a and TCR-1b, as described in Section 4.5, Cultural – Tribal Resources, of the *Stagecoach Solar Project Draft EIR*, potential impacts related to historical resources would be reduced to a less than significant level.

Impact 3.6-2 Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As previously discussed above, the *Cultural Resources Study* (Appendix F of this EIR) identified 38 new archaeological resources, including 15

isolates (4 prehistoric, 11 historical), and 23 sites (1 prehistoric, 1 multicomponent, and 21 historical). Of these, two archaeological sites (prehistoric site [Sienna S-8] and multicomponent site [Sienna S-28]) may include a subsurface deposit with significant data potential. Preservation in place (avoidance) is the preferred manner of mitigating impacts to archaeological sites. Mitigation Measure CR-1 identifies avoidance of archaeological sites Sienna S-8 and Sienna-S-28, if feasible. If avoidance of these sites is not feasible, Phase II testing and Phase III data recovery may be required to reduce impacts to a less than significant level.

Although unlikely, the potential for unearthing a previously-undiscovered archaeological resource during construction does exist. This potential impact is considered significant. Implementation of Mitigation Measures CR-2 through CR-4 would reduce this potential impact to a less than significant level. Mitigation Measure CR-2 requires preparation of a Cultural Resources Mitigation and Monitoring Program (CRMMP) for unanticipated discovering during construction of the Sienna Project. Mitigation Measure CR-3 requires cultural resources sensitivity training program to assist in identifying any unanticipated cultural resources that may be encountered during ground disturbing activities associated with Project construction. Mitigation Measure CR-4 requires archaeological and Native American monitoring of Project related ground disturbance within Project areas of moderate to high archaeological sensitivity as established in and defined by the CRMMP.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), a total of 10 cultural resources were discovered within the Calcite Substation footprint. Two of these resources were found to be historical resources per CEQA and are addressed in Impact 3.6-1 above. The remaining resources include isolated artifacts, historic trash scatters, and a well. These resources do not meet the definition of an archaeological resource per CEQA. Therefore, construction of the proposed Calcite Substation would not have a direct or indirect impact to known unique archaeological resources. Additionally, there are no known unique archaeological resources within the indirect effects area. Therefore, indirect impacts would not occur (California State Lands Commission 2021).

During ground disturbing activities, it is possible to encounter unknown buried archaeological resources or Tribal cultural resources. Inadvertent disturbance or destruction of an unanticipated cultural resource or Tribal cultural resource could result in an adverse change to the significance of the resource if it is determined to be a unique archaeological resource under CEQA. Implementation of MM CUL-1a through CUL-1f and MM TCR-1a and TCR-1b, as described in the *Stagecoach Solar Project Draft EIR,* would reduce potential impacts to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with archaeological resources. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

CR-1 Archaeological Resources. The Project Applicant shall retain a qualified archaeologist, defined as an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (NPS 1983), to perform mitigation measures related to archaeological and historic resources listed below.

1. If feasible, archaeological sites Sienna S-8 and Sienna-S-28 identified within the Project area plus a 200-foot buffer shall be avoided. The 200-foot buffer shall be delineated using a high visibility barrier (i.e., Environmentally Sensitive Area [ESA] fencing). The buffer may be reduced in consultation with qualified archaeologist based on the Phase II Study.
2. In the event where avoidance of archaeological sites Sienna S-8 and Sienna S-28 is infeasible, the Project Applicant shall implement the following:
   a) Prior to the initiation of ground-disturbing activities, a Phase II Study shall be conducted to determine whether a subsurface deposit with significant data potential exists at each of these sites and to establish the subsurface boundaries of the resource. The Phase II study shall be conducted by a qualified archaeologist. The qualified archaeologist shall prepare a subsurface testing plan for review and approval by the San Bernardino County Museum prior to execution. The Phase II testing plan shall include, but not be limited to, a research design, testing methods, laboratory methods, and a list of any applicable special studies to be completed. The Phase II plan shall also include testing locations proposed within the site. The Phase II study shall comprise subsurface testing designed to establish the presence or absence and extent of intact archaeological deposits and to assess whether the site(s) retains enough data potential to be considered significant under CEQA. The Phase II testing shall be observed by a Native American monitor.
   b) If a Phase II investigation at sites Sienna S-8 and/or Sienna S-28 finds the resource(s) as eligible for listing in the NRHP and CRHR and avoidance is not feasible, a Phase III data recovery program (Phase III) shall be undertaken to mitigate any significant impacts. Mitigation consists of obtaining sufficient cultural materials such that no further material recovery would result in additional knowledge regarding the site. A Phase III investigation shall begin with the development of a data recovery plan prepared by a qualified archaeologist and reviewed and approved by San Bernardino County prior to execution. The data recovery plan shall include, but not be limited to, an expanded research design, testing methods, proposed testing locations, laboratory methods and analyses, and special studies. The Phase III plan shall include extensive subsurface testing and a full analysis of artifacts identified during each phase of subsurface investigation with the goal of exhausting the data potential of the site(s). These studies shall include but not be limited to faunal analysis of any animal bones, radiocarbon dating where appropriate, and/or protein residue analysis of stone tools and groundstone. The results of the Phase III study shall be presented in a technical report documenting the prehistoric and ethnographic background of the area, the field and laboratory methods used, results, and final deposition of the artifact collection. The data collected during the study may also be prepared for publication in a scientific journal as part of the data recovery mitigation.

CR-2 **Preparation of a Cultural Resources Mitigation and Monitoring Program.** Prior to the start of any ground-disturbing activity for Project construction, including but not limited to site clearing, grubbing, trenching, and excavation, a qualified archaeologist who meets or exceeds the Secretary of Interior's Professional Qualifications Standards for archaeology shall be retained to prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) for unanticipated discoveries during Project construction. The CRMMP shall be prepared in consultation with Native American tribes who have participated in consultation for the Project. The CRMMP shall include provisions for archaeological and Native American monitoring of all

construction related ground disturbance within Project areas of moderate to high archaeological sensitivity. The CRMMP shall also include the Project construction schedule, procedures to be followed in the event of discovery of archaeological resources, and protocols for Native American coordination and input, including review of documents. The CRMMP shall outline the role and responsibilities of both the archaeological and Native American monitor(s). It shall include communication protocols and opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin. The CRMMP shall include provisions for Native American monitoring during testing or data recovery efforts for unknown resources that are Native American in origin. A copy of the executed CRMMP shall be provided to the County of San Bernardino Planning Division.

CR-3 **Archaeological Sensitivity Training.** Prior to the initiation of ground-disturbing activities, the Sienna 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 provided to the County of San Bernadino Planning Division and retained demonstrating that construction personnel attended the training.

In the event that cultural resources are discovered during Sienna 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 Sienna Project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) 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.

CR-4 **Archaeological and Native American Monitoring.** Archaeological and Native American monitoring of Project-related initial ground disturbing activities including grading, scraping and other clearing shall occur in areas of moderate to high archaeological sensitivity. Within areas of moderate to high archaeological sensitivity, archaeological monitoring shall be performed under the direction of the qualified archaeologist. The qualified archaeologist, in consultation with the County of San Bernardino and the Native American monitor, shall have the power to reduce or suspend monitoring depending upon observed conditions. If archaeological resources are encountered during ground-disturbing activities, work within the immediate area must halt and the find evaluated for significance under CEQA.

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 Sienna Project and implement the plan accordingly.

CALCITE SUBSTATION

MM CUL-1a through CUL-1f and MM TCR-1a and TCR-1b as described in the *Stagecoach Solar Project Draft EIR*.

Significance after Mitigation

SIENNA PROJECT

Construction of the Sienna Project has the potential to affect archaeological resources during Project construction. However, implementation of Mitigation Measures CR-1 through CR-4 would reduce potential impacts to a level less than significant.

CALCITE SUBSTATION

With implementation of MM CUL-1a through CUL-1f as described in Section 4.4, Cultural Resources, and MM TCR-1a and TCR-1b, as described in Section 4.5, Cultural – Tribal Resources, of the *Stagecoach Solar Project Draft EIR*, potential impacts related to archaeological resources would be reduced to a less than significant level.

Impact 3.6-3 Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project site is not located on a known cemetery and no human remains are anticipated to be disturbed during Project construction. However, during construction, grading, excavation, and trenching would be required. Although the potential for encountering subsurface human remains within the Sienna Project site is low, there remains a possibility that human remains are present beneath the ground surface and such remains could be exposed during construction. The potential to encounter human remains is considered a potentially significant impact.

However, the County has complied with procedures for consulting with Native American tribes as outlined in AB 52 and the Sienna 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 Sienna 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.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), ground disturbing activities during construction of the proposed Calcite Substation could adversely impact presently unidentified human remains, including those interred outside of dedicated cemeteries. If human remains or related resources are discovered during construction, such resources shall be treated in accordance with state and local regulations and guidelines that govern the disclosure, recovery, relocation, and preservation of human remains (State CEQA Guidelines, § 15064.5, subd. (e)). Implementation of MM CUL-3 as described in Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and provided below, would reduce this impact to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with the potential to disturb human remains. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM CUL-3 **Treatment of Human Remains.** In accordance with state law (Health & Safety Code, § 7050.5; Pub. Resources Code, § 5097.98), if human remains are found, all ground disturbing activities shall halt within 165 feet (50 meters) of the discovery and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on- site lead/foreman/CRS shall then immediately (within 24 hours) notify the County Coroner, the CSLC. No further excavation or disturbance within the ESA or any nearby area reasonably suspected to overlie potential remains shall occur until the County Coroner has determined whether the remains are subject to his or her authority. The County Coroner must make this determination within 2 working days of notification of the discovery (pursuant to Health & Safety Code, § 7050.5, subd. (b)). If the County Coroner determines that the remains do not require an assessment of cause of death and that the remains are or are believed to be Native American, the Coroner must notify the Native American Heritage Commission (NAHC) by telephone within 24 hours, which must in turn immediately notify those persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD shall be allowed to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, CSLC, and other landowner if applicable, agree to discuss in good

faith what constitutes “appropriate dignity” as that term is used in the applicable statutes. The MLD shall complete their inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code section 5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with California Public Resources Code section 5097.98, subdivisions (a) and (b). The MLD, in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. On-site reburial in a mutually agreed on location shall be accommodated as much as feasible.

It is understood by all Parties that revealing the location of a site of any reburial of Native American human remains or cultural artifacts would endanger the remains or artifacts to vandalism and looting. Maintaining the confidentiality of such information helps respect and preserve reburials and artifacts. Accordingly, public agencies should withhold from public disclosure information related to such reburials or artifacts, pursuant to the specific exemption set forth in California Government Code section 6254, subdivision (r).

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM CUL-3 as described in Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR*, potential impacts related to the disturbance of human remains would be reduced to a less than significant level.

This page is intentionally blank.

3.7 Geology and Soils

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 contained within this section is largely based on information from the *Jurisdictional Delineation Report*, *Geotechnical Study*, *Paleontological Resources Assessment* (Appendix E, Appendix G and Appendix H of this EIR, respectively) and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.7.1 Existing Conditions

The Project site is located within the Mojave Desert geomorphic province. The Mojave Desert province is bounded on the southwest by the San Andreas fault and the Transverse Ranges (locally San Bernardino Mountains) and on the northeast by the Garlock fault. The region is characterized by broad alluviated basins that conceal the previously mountainous topography (Appendix G of this EIR).

Faults, Seismicity, and Geologic Hazards

Active Faults

SIENNA PROJECT

Like most of Southern California, the Sienna Project area is located within a seismically active region. However, the Sienna Project site does not intersect with any active faults and the site is not located within an Alquist-Priolo Special Studies Fault Zone. The nearest fault is the Helendale Fault, located approximately 6.2 miles west of the Sienna Project site. According to the Geotechnical Study, an unnamed gridded point source that is considered to have the most significant effect at the site from a design standpoint has a maximum magnitude of 5.49 and is located approximately 3.7 miles from the Sienna Project site. The Lenwood-Lockhart Fault is also located approximately 7.5 miles from the Sienna Project site (Appendix G of this EIR).

CALCITE SUBSTATION

According to Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), no known active or potentially active faults cross the proposed Calcite Substation site. The closest Alquist-Priolo zoned fault is the Helendale-South Lockhart fault zone, located approximately 5 miles southwest of the Calcite Substation site. The nearest faults include the Lenwood-Lockhart Fault and North Fruntal thrust system, located approximately 7.7 miles and 10.6 miles, respectively, from the Calcite Substation site (California State Lands Commission 2021).

Surface Rupture

SIENNA PROJECT

Surface rupture results when displacement along an active fault physically breaks the ground surface during a seismic event. The Sienna Project site is not located within any currently designated State of California Alquist Priolo Earthquake Fault Zones (Appendix G of this EIR). There are no active or potentially active faults within the Sienna Project site based on regional geologic

mapping. Considering these findings, the potential for surface fault rupture at the site is considered low.

CALCITE SUBSTATION

No known active or potentially active faults cross the proposed Calcite Substation site. The closest Alquist-Priolo zoned fault is the Helendale-South Lockhart fault zone, located approximately 5 miles southwest of the Calcite Substation site (California State Lands Commission 2021).

Ground Shaking

SIENNA PROJECT

The major cause of structural damage from earthquakes is ground shaking. The severity of ground motion expected at any one site can vary depending upon the distance to the fault, the magnitude of the earthquake, and the local geology. Strong seismic ground shaking can damage large infrastructure, such as freeway overpasses and unreinforced masonry buildings. Seismic ground shaking can also trigger a variety of secondary hazards such as liquefaction, landslides, fire, and dam failure. According to the geotechnical report prepared for the Sienna Project, the Sienna Project site is not located within any currently designated State of California Alquist Priolo Earthquake Fault Zones. However, the Sienna Project site is located in Southern California, a seismically active region, and would most likely be exposed to seismic-related ground shaking over the course of its operational lifespan (Appendix G of this EIR).

CALCITE SUBSTATION

The intensity of earthquake-induced ground motions can be described using ground accelerations, represented as a fraction of the acceleration of gravity (g). Peak ground acceleration is the maximum acceleration experienced by a particle on the Earth's surface during the course of an earthquake. Peak ground accelerations within the proposed Calcite Substation site range from about 0.55g to 0.60g, which corresponds to moderate ground shaking (California State Lands Commission 2021).

Expansive Soils

SIENNA PROJECT

Expansive soils consist of high fractions of clay materials that respond to changes in water content and expand upon wetting and shrink upon drying. The clay quantity in soils correlates to their relative expansiveness (i.e., soils with a higher clay content tend to be more expansive). Due to the potential for expansive soils to expand/shrink, they can cause structural damage to buildings, roads, and other infrastructure that are not engineered to withstand them. According to the Geotechnical Study prepared for the Sienna Project, the Atterberg limit test results indicate that the on-site soils are generally medium to high plasticity clayey soils. Therefore, expansive soils should be anticipated during construction (Appendix G of this EIR).

CALCITE SUBSTATION

The soils underlying the proposed Calcite Substation site are granular with high percentages of sand and have a low potential for expansion (California State Lands Commission 2021).

Subsidence and Ground Fissuring

SIENNA PROJECT

Subsidence is the gradual sinking of the ground due to underground material movement, commonly associated with mining or other extractive (water, oil, and natural gas) activities, but also commonly associated with earthquakes. According to the Geotechnical Study prepared for the Project, Lucerne Valley has experienced subsidence due to groundwater withdrawal (Appendix G of this EIR).

Ground fissuring attributed to past groundwater withdrawal is apparent on many of the Sienna Project site parcels. In areas where the slope of the ground surface is slight, including the Sienna Project area, narrow ground cracks (less than 2 mm wide) can channel surface water for long distances. Fissures up to approximately 5 feet wide and 4 feet deep that have had no apparent agricultural use were observed onsite. Some Sienna Project site parcels are in current or recent use for alfalfa production and have apparently been flattened to facilitate “flood” irrigation. Based on subsurface observation of fissures, the fissuring is generally narrow (1 to 2 mm wide) at depths greater than approximately 2 to 3 feet. Significant fissures apparently do not extend deeper than 2 to 3 feet below the surface (Appendix G of this EIR).

The observed fissuring on the Sienna Project site parcels is considered to be the result of subsidence. Subsidence is expected to continue. The amount and location of expected subsidence cannot be reliably predicted with the information that is currently available (Appendix G of this EIR).

CALCITE SUBSTATION

According to Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site is located approximately 1 mile north of active subsidence at Lucerne Lake (California State Lands Commission 2021).

Seismically-Induced Settlement

SIENNA PROJECT

Seismically induced settlement consists of dry dynamic settlement (above groundwater level) and liquefaction induced settlement (below groundwater level). This settlement occurs primarily within loose to moderately dense sandy soils due to a reduction in volume during and shortly after an earthquake event. According to the Geotechnical Study, the Sienna Project site is underlain by clayey soils. Therefore, the potential for seismically-induced settlement is considered low.

CALCITE SUBSTATION

According to Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site is located approximately 1 mile north of active subsidence at Lucerne Lake (California State Lands Commission 2021).

Landslides

SIENNA PROJECT

Landslides are the downward movement of debris and materials in areas of weak soil and rock, and almost always occur on sloping terrain. The Sienna Project site is relatively flat and is not located in a landslide zone (San Bernardino County 2020d). The Sienna Project site is not located within an area identified as having a potential for slope instability. The site is situated in relatively flat-lying

terrain that lacks significant natural relief or slopes. Therefore, the potential for landslide or slope instability is considered low (Appendix G of this EIR).

CALCITE SUBSTATION

According to Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the closest existing landslides and landslide hazard zones are approximately 9 miles southwest and 15 miles south, respectively, from the proposed Calcite Substation site (California State Lands Commission 2021).

Liquefaction

SIENNA PROJECT

Liquefaction occurs when loose, water saturated sediments lose strength and fail during strong ground shaking. Liquefaction is defined as the transformation of granular material from a solid state into a liquefied state as a consequence of increased pore water pressure (California DOC 2019). Structures founded on, or above, potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and/or undergo lateral spreading. The factors known to influence liquefaction potential include soil type, relative density, grain size, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose to medium dense, silty, sandy, and gravelly soils below the groundwater table.

According to the Geotechnical Study (Appendix G of this EIR), the Sienna Project site is not mapped within a liquefaction hazard potential area as designated by the CGS, as their mapping efforts have not reached the region of the site. In addition, the Sienna Project site is not included within a liquefaction hazard zone designated by San Bernardino County on their Geologic Hazard Overlay Maps (Appendix G of this EIR). Therefore, the potential for liquefaction at the Sienna Project site is considered low and other geologic hazards related to liquefaction, such as lateral spreading, are also considered low.

CALCITE SUBSTATION

The young sedimentary deposits underlying the proposed Calcite Substation site are not generally expected to be liquefiable due to deep groundwater levels in the area, generally greater than 100 feet below ground surface. The igneous and metamorphic rocks within the proposed Calcite Substation site are not susceptible to liquefaction (California State Lands Commission 2021).

Groundwater

SIENNA PROJECT

The Project site is located within the Lucerne Valley basin, part of the Colorado River Hydrologic Region. The groundwater below the site is stored in an aquifer within the Lucerne Valley Groundwater Basin (LVGB). According to the Geotechnical Study, groundwater was not observed in the borings from the field exploration (Appendix G of this EIR).

CALCITE SUBSTATION

According to Section 4.10, Hydrology and Water Quality of the *Stagecoach Solar Project Draft EIR*, the proposed Calcite Substation is located within the Este Hydrologic Subbasin and overlies the northern portion of the LVGB. A previous groundwater investigation for the previously-approved

Stagecoach Solar Project indicated that local groundwater primarily occurs in fractured bedrock in relation to the proposed Calcite Substation facilities (California State Lands Commission 2021).

Soils

SIENNA PROJECT

The USDA NRCS (2021) has mapped and inventoried soils at both landscape (coarse) scales and detailed (fine) scales. The Sienna Project site is covered by the Soil Survey of San Bernardino County, California, Mojave River Area. The soil survey indicates that soils in the Lucerne Valley floor are primarily derived from alluvium parent materials from granitic sources and other mixed sources.

Within the Sienna Project site, soils are associated with alluvial fans, toe slopes, playas, and other gently sloped landforms (Appendix E of this EIR). Based on Web Soil Survey data, the site contains 19 soil map units, as summarized in Table 3.7-1.

Table 3.7-1. Soils Underlying the Sienna Project Site

Soil Unit	Description	Hydric?[1]
Bousic Clay	This soil map unit typically occurs on toeslopes of lake plains and talfs (geomorphic components of an essentially flat and broad area dominated by closed depressions) in low areas with very little slope. The dominant soil series, Bousic clay, is formed in alluvium from mixed sources. A typical soil profile consists of clay horizons to at least 60 inches of depth. This soil is well drained, alkaline, and strongly saline. Minor components within this map unit are Peterman soils.	Yes
Bryman Loamy Fine Sand, 2 to 5 Percent Slopes	This granitic soil map unit usually occurs on terraces and older alluvial fans, at elevations from 2,800 to 3,800 feet. A typical soil profile consists of a pale topsoil layer that is loamy or sandy. The second horizon is usually pink to reddish brown and is generally sandy clay loam, loam or gravelly sandy loam. The third horizon is pale yellowish brown to strong brown, is usually alkaline, and may be loamy coarse sand to sand.	No
Cajon Sand, 0 to 2 Percent Slopes	This soil map unit typically occurs on alluvial fans on gentle slopes. The dominant soil series, Cajon sand, is formed in alluvium from granitic sources. A typical soil profile consists of sandy topsoil, underlain by a second sand horizon to approximately 25 inches, with layers of gravelly sand, stratified sand and loamy fine sand below to at least 60 inches of depth. This soil is somewhat excessively drained. Minor components within this map unit are Manet, Kimberlina, and Helendale soils.	No
Cajon Sand, 2 to 9 Percent Slopes	This soil map unit is similar to the Cajon map unit except it occurs on slightly greater slopes (2 to 9 percent) and may have more layers of stratified gravelly sand in the subsoil.	No
Cajon Gravelly Sand, 2 to 15 Percent Slopes	This soil map unit is similar to the previous two Cajon map units except it occurs on slightly greater slopes (2 to 15 percent) and the topsoil and subsoil horizons have increased gravel content.	No
Cave Loam, Dry, 0 to 2 Percent Slopes	This soil map unit typically occurs on alluvial fan remnants on gentle slopes. The dominant soil series, Cave loam, is formed in alluvium from granitic sources. A typical soil profile consists of loam topsoil, underlain by stratified sandy loam to loam subsoil between 21 and at least 66 inches of depth. This soil is well drained, and very slightly to slightly saline. Minor components within this map unit are a Cave soil with clayey subsoil, Kimberlina, and Lavic soils.	No
Dune Sand	This soil map unit consists of unstable hills and ridges of loose, wind-deposited sand that is excessively drained and barren. Dunes are typically less than 15 feet high and slopes are between 5 to 15 percent. Minor components within this map unit are Cajon sand, Riverwash and Villa loamy sand along the Mojave River, and Halloran soils.	No

Soil Unit	Description	Hydric?[1]
Glendale Variant Silt Loam, Saline-Alkali	This soil map unit occurs on basin rims and lower margins of narrow alluvial fans with slopes ranging from 0 to 2 percent with vegetation consisting of salt-tolerant shrubs, grasses, and forbs. Soil profiles are very pale brown silt loam down to 11 inches with underlying material consisting of light yellowish brown and pale brown silty clay loam. Surface layer and underlying layers are moderately or strongly alkaline. Minor components within this map unit are small areas of Lavic soils. This soil is suited for irrigated crops in areas where they are reclaimed.	No
Helendale Loamy Sand, 0 to 2 Percent Slopes	This soil map unit typically occurs on alluvial fan remnants on gentle slopes. The dominant soil series, Helendale loamy sand, is formed in alluvium from granitic sources. A typical soil profile consists of loamy sand topsoil, underlain by sandy loam subsoil between 4 and at least 66 inches of depth. This soil is well drained, and nonsaline to very slightly saline. Minor components within this map unit are Bryman, Kimberlina, and Cajon soils.	No
Helendale Loamy Sand, 2 to 5 Percent Slopes	This soil map unit occurs on alluvial fans and terraces and is derived primarily from granitic material. Slopes are broad and nearly level with many areas dissected by shallow intermittent drainageways. Vegetation is primarily yucca, desert shrubs, grasses, and forbs. The surface layer is very pale brown loamy sand about 4 inches thick with subsoil and the upper part of the substratum are brown, yellowish brown, and light yellowish brown sandy loam about 62 inches thick. Clay content decreases below a depth of 30 inches. Minor components include Bryman, Kimberlina, and Cajon soils.	No
Joshua Loam, 2 to 5 Percent Slopes	This soil map unit occurs on old stable terraces that have desert pavement. It formed in alluvium derived from mixed sources with broad, slightly convex slopes. Most areas are dissected by moderately deep intermittent drainageways. Typically, 70-90 percent of the surface layer is covered by desert pavement with a light yellowish-brown loam about 3 inches thick. Subsoils are brown and reddish brown gravelly sandy clay loam around 17 inches thick. These soils are often strongly alkali. Minor components within this map unit are Cajon soils.	No
Kimberlina Loamy Fine Sand, Cool, 0 to 2 Percent Slopes	This soil map unit typically occurs on skirts and aprons of alluvial fans on gentle slopes. The dominant soil series, Kimberlina loamy fine sand, is formed in alluvium from mixed sources. A typical soil profile consists of loamy fine sand topsoil, underlain by sandy loam, fine sandy loam, and loam subsoil between 7 and at least 60 inches of depth. This soil is well drained, and nonsaline to very slightly saline. Minor components within this map unit are Helendale and Cajon soils.	No
Kimberlina Loamy Fine Sand, Cool, 2 to 5 Percent Slopes	This soil map unit is similar to the Kimberlina map unit except it occurs on slightly greater slopes (2 to 5 percent) and may have more layers of stratified gravelly sand in the subsoil.	No
Lavic Loamy Fine Sand	This soil map unit typically occurs on skirts and aprons of alluvial fans on gentle slopes. The dominant soil series, Lavic loamy fine sand, is formed in alluvium from granitic sources. A typical soil profile consists of loamy fine sand topsoil, underlain by multiple layers of sandy loam, loamy fine sand, loamy sand and loam subsoil between 10 and at least 49 inches of depth. This soil is well drained, and slightly to moderately saline. Minor components within this map unit are unnamed soils.	Yes
Peterman Clay	This soil map unit typically occurs on skirts of alluvial fans on gentle slopes. The dominant soil series, Peterman clay, is formed in fine-textured alluvium from mixed sources. A typical soil profile consists of clay topsoil, underlain by clay and gravelly clay subsoil to at least 60 inches of depth. This soil is moderately well drained, alkaline, and strongly saline. Minor components within this map unit are unnamed soils.	Yes
Playas	This soil map unit consists of playa areas consisting of lacustrine deposits derived from mixed sources. Minor components within this map unit are Bousic, Norob, and Halloran soils.	Yes

Soil Unit	Description	Hydric?[1]
Rock Outcrop – Lithic Torriorthents Complex, 15 to 50 Percent Slopes	This soil map unit typically occurs on summits, backslopes and flanks of mountains on moderate to steep slopes. This map unit does not contain named soils. Rock outcrops, typically granitic, are interspersed with minimally developed soil underlain by bedrock within 8 to 20 inches of the soil surface. Minor components within this map unit are Sparkhule, and Trigger soils.	No
Wasco Sandy Loam, Cool, 0 to 2 Percent Slopes	This soil map unit typically occurs on aprons of alluvial fans on gentle slopes. The dominant soil series, Wasco sandy loam, is formed in alluvium derived from granite. A typical soil profile consists of sandy loam topsoil, underlain by additional sandy loam horizons to at least 60 inches of depth. This soil is well drained, and nonsaline to very slightly saline. Minor components within this map unit are Cajon, Lucerne and Bryman soils.	No

Source: Appendix E of this EIR

Notes: [1] Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that in their undrained condition, are saturated, flooded, or ponded long enough during a growing season to develop anaerobic conditions that support the growth and regeneration of hydrophytic vegetation

CALCITE SUBSTATION

Soils units underlying the proposed SCE Calcite Facilities are loamy sands and sandy loams of the Helendale Loamy Sand, Kimberlina Loamy Fine Sand, Lavic Loamy Fine Sand, and Wasco Sandy Loam (California State Lands Commission 2021).

Paleontological Resources

SIENNA PROJECT

The Sienna Project area includes four geologic units mapped at ground surface: Quaternary young (Holocene) alluvium (Qa), Quaternary young (Holocene) dune sand (Qs), Quaternary young (Holocene) playa deposits (Qc), and Quaternary old (Pleistocene) gravel deposits (Qog). Figure 3.7-1 depicts the surficial geologic units in the Sienna Project area, as well as the corresponding paleontological sensitivity assigned to each of these units.

Quaternary Young (Holocene) Sedimentary Deposits (Qa, Qs, and Qc)

Quaternary young (Holocene) alluvium (Qa), derived from the Ord Mountains to the north, form an unconsolidated layer of alluvial sand, silt, and gravel across much of the Sienna Project area and Lucerne Valley. Mapped at the surface within the central portion of the Sienna Project area, the Quaternary young (Holocene) dune sand deposits (Qs) consist of loose, well-sorted, fine-grained sand deposited as dunes or thin veneers on alluvium and clay (Appendix G of this EIR). Mapped simultaneously in several areas, the Quaternary young (Holocene) playa deposits (Qc) are composed of a layer of light gray, micaceous, clay and are formed from the lakebed of the Lucerne Dry Lake. Holocene-aged units are too young to contain scientifically significant paleontological resources and are considered to have low paleontological sensitivity. However, these younger deposits may grade downward into fine-grained Quaternary old (i.e., Pleistocene) alluvial deposits (e.g, Qoa), which may preserve fossil remains, at unknown depths within the Sienna Project area (Appendix G of this EIR). Holocene sedimentary deposits younger than 5,000 years old (younger than middle Holocene) are too young to contain fossilized material. Therefore, Quaternary young (Holocene) alluvium (Qa), Quaternary young (Holocene) dune sand (Qs), and Quaternary young (Holocene) playa deposits (Qc) mapped in the Project area have been assigned a low paleontological sensitivity at or near the surface.

Quaternary old (Pleistocene) Sedimentary Deposits (Qog)

Quaternary old (Pleistocene) gravel deposits (Qog), mapped within portions of the gen-tie corridor, are composed gray gravel of rounded cobbles derived from the Ord and East Ord Mountains (Appendix G of this EIR). Quaternary old (Pleistocene) sedimentary deposits underlying the Project area are old enough to preserve fossil resources. In particular, fine-grained alluvial deposits are generally deposited under conditions that are conducive to fossil preservation. However, coarse-grained alluvial deposits (e.g., Qog) are deposited in high-energy conditions that tend to destroy and disperse organic material, and as such, are not conducive to fossil preservation (Appendix G of this EIR). The coarseness of Quaternary old (Pleistocene) gravel deposits (Qog) generally preclude the preservation of significant paleontological resources and are assigned a low paleontological sensitivity.

Fine-grained Quaternary old (Pleistocene) alluvial deposits (i.e., Qoa) are mapped at the margins of the Ord Mountains approximately four miles southwest of the Sienna Project area. These units are not mapped within the Sienna Project area but are expected to underlie the Project area at shallow or unknown depths. Quaternary old (Pleistocene) alluvial deposits would be expected to occur at shallow depths (less than five feet) near the margins of the basin. However, the depth at which Quaternary old (Pleistocene) alluvial deposits occurs may vary throughout a basin, ranging from shallow to more than 100 feet depending on the local topography. In the absence of geotechnical data, the depth to Quaternary old (Pleistocene) alluvial deposits cannot be reliably estimated. However, sensitive older deposits are unlikely to occur at depths of less than five feet at the Sienna Project area based on the Project area being situated toward the center of the basin (Appendix G of this EIR).

Quaternary old (Pleistocene) alluvial deposits (e.g., Qoa) have proven to yield significant vertebrate fossil localities throughout California, including San Bernardino County. Localities have produced fossil specimens of terrestrial mammals, such as mammoth, horse, elephant, camel, bison, birds, rodents, and reptiles (Appendix G of this EIR). Quaternary old (Pleistocene) alluvial deposits that are likely to occur at an unknown depth but potentially as shallow as 10 feet below the surface have a high paleontological sensitivity throughout California (Appendix G of this EIR).

Paleontological Resources Record Search

A search of the paleontological locality records at the Natural History Museum of Los Angeles resulted in no previously recorded fossil localities within the Project boundary; however, at least eight Pleistocene vertebrate localities (LACM VP 3350, 1224, 3352, 3353, 3498, 7786, 1123, and CIT 211) were identified in the general vicinity of the Sienna Project area.

LACM VP 3350 produced fossil specimens of bison (*Bison*), camel (*Camelops*), and horse (*Equus*) southeast of the Project area near Surprise Spring in San Bernardino County. LACM VP 1224, 3352, 3353, 3498, and CIT 211 yielded specimens of the camel family (*Camelidae*), horse (*Equus*), mammoth (*Mammuthus*), deer family (*Cervidae*), and antelope family (*Antilocapridae*) approximately 20 miles west of the Project area near the city of Victorville (Appendix G of this EIR). LACM VP 7786, which produced a fossil specimen of vole (Microtus mexicanus) at a depth of approximately 10 feet below ground surface, was documented approximately 25 miles west from the Sienna Project area near Southern California Logistics Airport. LACM VP 1123 yielded specimens of horse (Equus), antelope (*Breameryx*), fox (*Urocyon*), camel (*Camelops*), lama (*Tanupolama*), badger (*Taxidae*), wolf (*Canis*), human (*Homo sapiens*), sheep (*Ovis*), hare (*Lepus*), rabbit (*Sylvilagus*), kangaroo rat (*Dipodomys*), pocket mouse (*Perognathus*), pack rat (*Neotoma*), gopher tortoise (*Gopherus*),

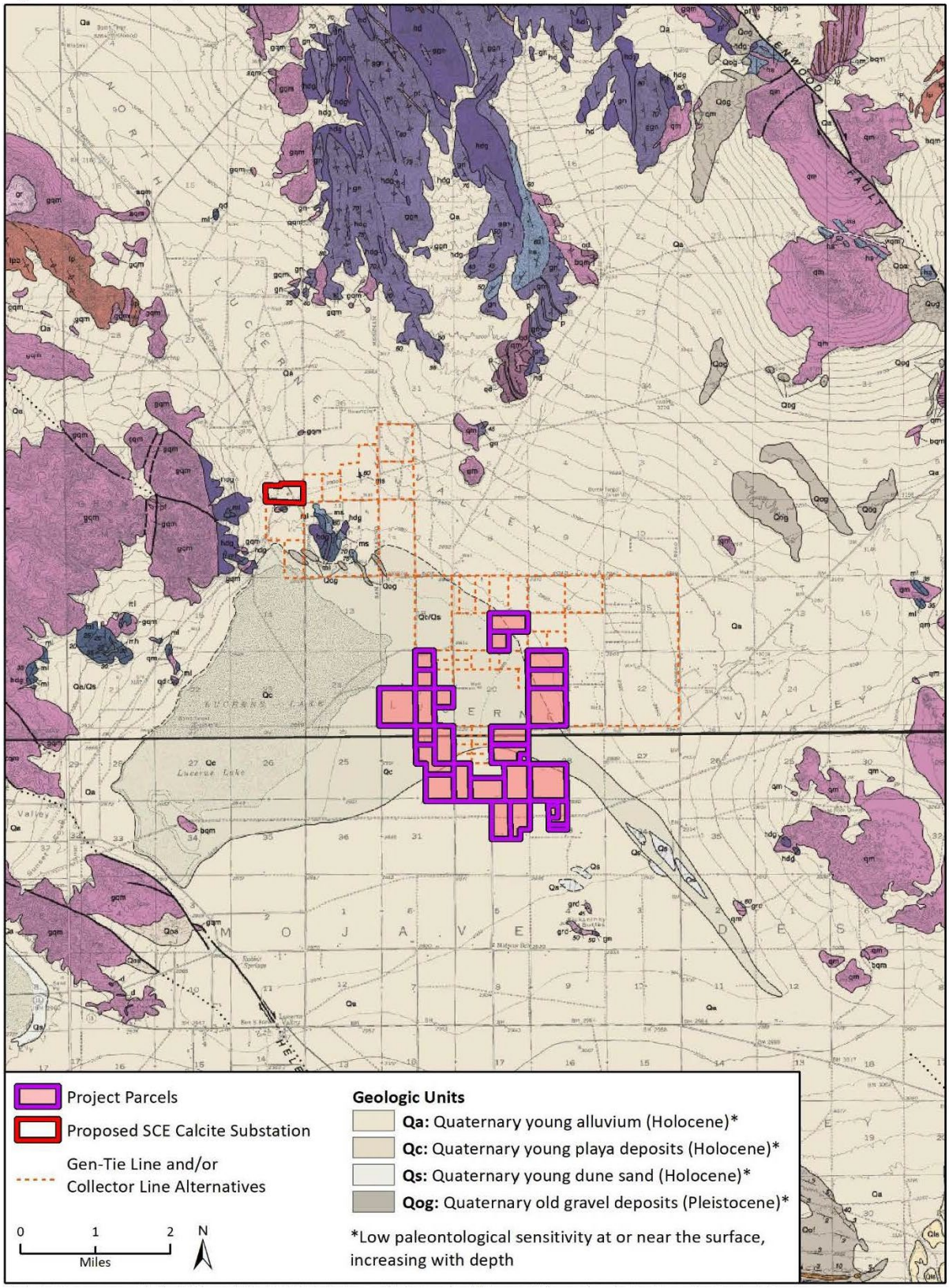
chuckwalla (*Sauromalus*), rattlesnake (*Crotalus*), vulture (*Gymnogyps*), horned owl (*Bubo*), Scops owl (*Otus*), duck (*Anas, Oxyura, Aythya*), coot (*Fulica*), merganser (*Mergus*), woodpecker (*Colaptes*), hawk (*Buteo*), cat (*Felis, Lynx*), crow (*Corvus*), dove (*Zenaida*), eagle (*Aquila*), less than 30 miles north of the Project area (Appendix G of this EIR).

A supplemental review of the museum records maintained in the UCMP online collections database did not yield records of any vertebrate fossil localities in the general vicinity of the Sienna Project area. However, at least two vertebrate UCMP vertebrate localities are recorded from Pleistocene sedimentary deposits in unspecified locations within San Bernardino County (Appendix G of this EIR). UCMP Locality-676 yielded fossil specimens of horse (*Equus*), camel (*Camelops*), elephant (*Elephas*), mammoth (*Mammuthus*), pelican (*Pelecanus erythrorhynchos*), and bat (*Pseudorhinolophus*). In addition, UCMP Locality-791 produced fossil specimens of bighorn sheep (*Ovis canadensis*) and coyote (*Canis latrans*) (Appendix G of this EIR).

CALCITE SUBSTATION

According to Section 4.13, Paleontological Resources, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site is mapped entirely as underlain by Holocene to late Pleistocene young alluvial fan deposits. These sediments are assigned a low (Potential Fossil Yield Classification Class 2) potential for fossils (California State Lands Commission 2021).

Figure 3.7-1. Geologic Units and Paleontological Sensitivity in the Sienna Project Area



Source: Appendix G of this EIR

3.7.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

State

Alquist Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 regulates 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 maps active faults and designates Earthquake Fault Zones along mapped faults. This act groups faults into categories: 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. Any project that involves the construction of buildings or structures for human occupancy, such as an operations and maintenance building, is subject to review under the Alquist-Priolo Earthquake Fault Zoning Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

Seismic Hazards Mapping Act of 1990

In accordance with the Public Resources Code Division 2, Chapter 7.8, the California Geological Survey 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 California Geological Survey 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 of California establishes minimum standards for building design and construction through the California Building Code (CBC) (California Code of Regulations, Title 24). The CBC incorporates the Uniform Building Code by reference, 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.

California Environmental Quality Act

CEQA requires public agencies and private interests to identify the potential environmental consequences of their proposed Projects on any object or site considered to be a historical resource of California (California Public Resources Code [PRC], section 21084.1, California Code of Regulations Title 14, section 15064.5). Appendix G of the State CEQA Guidelines (California Code of Regulations Title 14, Chapter 3) provides an Environmental Checklist of questions, including a

single question related to paleontological resources (Section VII.f) as follows: "Would the project directly or indirectly destroy a unique paleontological resource or site?"

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review. The SVP defines a significant paleontological resource as:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) [p. 11] (SVP 2010).

The loss of significant paleontological resources would be a significant impact under CEQA. The CEQA lead agency is responsible for ensuring that paleontological resources are protected in compliance with CEQA and other applicable statutes.

Local

San Bernardino Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The proposed Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. The following policies from the Land Use Element, the Cultural Resources Element, and the Hazards Element are applicable to the Project:

LAND USE ELEMENT

Policy LU-2.3: **Compatibility with Natural Environment.** We require that new development is located, scaled, buffered, and designed for compatibility with the surrounding natural environment and biodiversity.

CULTURAL RESOURCES ELEMENT

Goal CR-2: Historic and Paleontological Prehistoric 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-2.3: 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: **New Development in Environmental Hazard Areas.** We require all new development to be located outside of the environmental hazard areas listed below. For any lot or parcel that does not have sufficient buildable area outside of such hazard areas, we require adequate mitigation, including designs that allow occupants to shelter in place and to have sufficient time to evacuate during times of extreme weather and natural disasters.

- Flood: 100-year flood zone, dam/basin inundation area
- Geologic: Alquist Priolo earthquake fault zone; County-identified fault zone; rockfall/debris-flow hazard area, medium or high liquefaction area (low to high and localized), existing and County-identified landslide area, moderate to high landslide susceptibility area)
- Fire: high or very high fire hazard severity zone

3.7.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to geology and soils, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to geology and soils are considered significant if the Project would:

- directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - 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.
    - strong seismic ground shaking;
    - seismic-related ground failure, including liquefaction;
    - landslides; or
- result in substantial soil erosion or the loss of topsoil; or
- 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; or
- 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; or
- 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

- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impact Analysis

Impact 3.7-1i ***Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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.***

SIENNA PROJECT

Less than Significant Impact. Surface fault rupture occurs when movement of a fault within the earth breaks through the ground surface or as a result of fault creep or natural or artificially induced subsidence. Fault rupture can cause significant structural damage and associated safety risks for people within the vicinity of the rupture. Pursuant to the Alquist Priolo Earthquake Fault Zoning law, development projects that are located near active faults are required to take into consideration the potential effects of surface rupture and are required to mitigate potential impacts occurring as a result of potential surface fault rupture. The nearest fault is the Helendale Fault, located approximately 6.2 miles west of the Sienna Project site and the Lenwood-Lockhart Fault is located approximately 7.5 miles distance from the site (Appendix G of this EIR).

According to the Geotechnical Study (Appendix G of this EIR), the Sienna Project is in the vicinity of several other known active and potentially active earthquake faults. However, none of these faults traverse the Sienna Project site. As such, the probability of surface fault rupture within the Project site during construction and operation is considered low. Additionally, the Sienna Project would be implemented in compliance with the CBC (for the O&M building) and other state and local regulations pertaining to earthquake hazards reduction.

Based on the above analysis, Project construction and operation would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a major fault as delineated on the most recent Alquist Priolo Fault Zoning map. Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No Impact. According to Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), no known active, potentially active, or Alquist-Priolo zoned faults cross the Calcite Substation site. Therefore, there is no potential for surface fault rupture at the proposed Calcite Substation and no impact would occur (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with ground rupture from a known earthquake fault. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.7-1ii ***Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking?***

SIENNA PROJECT

Less than Significant Impact. The intensity of ground shaking during a seismic event at any one location is determined by several factors, including magnitude of the earthquake, distance from the epicenter (source), subsurface material beneath the location, and topography. Ground shaking could result in significant damage to buildings, roads, and other infrastructure, and may also result in associated safety hazards to people living and working in the vicinity.

As stated above, the Sienna Project site is located within a seismically active region that is known for its many active faults and historic seismicity. The nearest fault is the Helendale Fault, located approximately 6.2 miles west of the Sienna Project site and the Lenwood-Lockhart Fault is also located approximately 7.5 miles distance from the Sienna Project site. According to the Geotechnical Study, an unnamed gridded point source that is considered to have the most significant effect at the site from a design standpoint has a maximum magnitude of 5.49 and is located approximately 3.7 miles from the Sienna Project site (Appendix G of this EIR). Therefore, although unlikely, seismic ground shaking could potentially affect the Sienna Project site during construction and operation.

However, construction would be temporary in nature and the probability of seismic ground shaking during construction is low. Additionally, the Sienna Project is a solar energy generation facility project that would not introduce any structures intended for permanent habitation. The O&M building would be designed and constructed in compliance with the CBC and other state and local regulations pertaining to earthquake hazards reduction. Additionally, construction and operation of the Sienna Project would not increase or exacerbate the potential for strong seismic ground shaking to occur. Therefore, the Sienna Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking. Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Less than Significant Impact. Seismically induced ground shaking would not be affected by nor would it affect construction of the proposed Calcite Substation. While the potential for seismically induced ground shaking in the Project area during operation of the Calcite Substation is unavoidable, the proposed substation would not include any occupied structures that would expose people to significant hazards due to seismic shaking. It is unlikely that the below grade and above-ground components would be damaged by moderate seismic ground shaking. However, a site-specific geotechnical investigation that includes seismic hazard assessment would provide proper design for these facilities. Such an assessment would ensure compliance with all appropriate and applicable codes and seismic standards and guidelines, including those presented in IEEE 693 (Recommended Practices for Seismic Design of Substations), California Public Utilities Commission (CPUC) General Order (GO) 128 for underground electrical supply and communication systems, and CPUC GO 95 for overhead electrical supply and communications facilities. These existing requirements would ensure that the hazard from seismically induced ground shaking would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with potential ground shaking. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.7-1iii ***Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?***

SIENNA PROJECT

Less than Significant Impact. Seismic related ground failure includes hazards such as liquefaction, landslides, and settlement. As explained in Section 3.7.1, the Sienna Project site is located within an area that has low potential for landslides and liquefaction (Appendix G of this EIR). Additionally, the Sienna Project is a solar energy generation project that would not introduce any structures intended for habitation and Project construction and operation would be carried out in accordance with the applicable state and local regulations pertaining to earthquake hazards reduction, including the CBC. Additionally, Project construction and operation would not increase or exacerbate the potential for

ground failure, including liquefaction. Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Less than Significant Impact. While the Calcite Substation site is underlain by young alluvial fan and valley deposits, liquefaction-related phenomena are very unlikely to occur at the Calcite Substation site due to deep groundwater levels in the area (generally greater than 100 feet below ground surface). Additionally, the substation would be designed consistent with project-specific geotechnical investigation recommendations and all applicable regulations and guidelines. Therefore, the potential for damage to substation structures and injury to workers due to liquefaction-related phenomena is less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with seismic-related ground failure, including liquefaction. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.7-1iv ***Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?***

SIENNA PROJECT

Less than Significant Impact. Seismic related ground failure includes hazards such as liquefaction, landslides, and settlement. As explained in Section 3.7.1, the Sienna Project site is located within an area that has low potential for landslides and liquefaction (Appendix G of this EIR). Additionally, the Sienna Project is a solar energy generation project that would not introduce any structures intended for habitation, and Project construction and operation would be carried out in accordance with the applicable state and local regulations pertaining to earthquake hazards reduction, including the CBC. Additionally, Project construction and operation would not increase or exacerbate the potential for ground failure, including landslides. Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No Impact. The Calcite Substation site is located on flat to very gently sloping alluvial fan and valley floor and does not cross any areas mapped with existing landslides deposits or slope failures. Therefore, there is no impact related to seismically induced landslides at the proposed Calcite Substation site (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with landslides. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.7-2 Would the Project result in substantial soil erosion or the loss of topsoil?

SIENNA PROJECT

Less than Significant Impact. Soil erosion may result during construction of the proposed Sienna Project, as grading and construction can 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 proposed Sienna Project would be subject to compliance with the 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. Compliance with the NPDES would minimize effects from erosion and ensure consistency with the Regional Water Quality Control Board requirements, which establish water quality standards for the groundwater and surface water of the region.

A stormwater pollution prevention plan (SWPPP) is required as part of the grading permit submittal package. The SWPPP will 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 the construction phase. The SWPPP would consider the full range of erosion control best management practices (BMPs) with consideration for any additional site-specific and seasonal conditions, as appropriate. Erosion control BMPs could 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

State General 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.

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, the Sienna Project would comply with required erosion and runoff control measures included as part of the approval of a grading plan. With conformance to applicable federal, state, and local regulations, and implementation of appropriate BMPs as required by same, the Project would not result in substantial soil erosion or the loss of topsoil during construction.

Upon operation, the proposed Sienna Project would operate a solar generation facility, which would not result in ground disturbance or other activities that may exacerbate soil erosion or the loss of topsoil.

Based on the evaluation above, the Sienna Project would not result in significant erosion or the loss of topsoil. Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Less than Significant Impact with Mitigation Incorporated. Vegetation removal and excavation and grading during construction of the proposed Calcite Substation could potentially loosen soils and trigger or accelerate wind and water erosion. Erosion potential of the soils underlying the Calcite Substation site range from slight to moderate for water and moderate to high for erosion by wind. The San Bernardino County Wind Erosion Hazards Policy Map (Policy Map HZ-11) maps most of the Calcite Substation site as medium wind erosion potential.

Erosion by water is governed by Clean Water Act regulations that require that the Applicant prepare and submit a SWPPP. The SWPPP would require development and implementation of BMPs to identify and control erosion. The SWPPP would require development and implementation of Best BMPs to identify and control water-driven erosion and would reduce the potential for water-driven erosion to less than significant.

Wind-driven erosion at the substation site would be controlled by MDAQMD fugitive dust rules, which would require dust control measures. In addition, Mitigation Measure AQ-1a as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, would supplement these dust control rules. Dust and erosion control measures would be implemented during construction on the substation site. Therefore, the potential for construction-triggered erosion would be less than significant with mitigation (California State Lands Commission 2021).

Operation and maintenance of the Calcite Substation would not require ongoing ground disturbance, so significant soil erosion would not be triggered or accelerated during operation (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with the potential for soil erosion onsite. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

Mitigation Measure AQ-1a as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of Mitigation Measure AQ-1a as described in Section 4.2, Air Quality, of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with soil erosion would be reduced to a less than significant level.

Impact 3.7-3 ***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?***

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As stated above, seismic related ground failure includes hazards such as liquefaction, landslides, and settlement. As explained in Section 3.7.1, the Sienna Project site is located within an area that has low potential for landslides and liquefaction. The Sienna Project site is relatively flat and there are no slopes near the site. According to the County of San Bernardino General Plan (2010), the Sienna Project site is not located within an area identified as having a potential for slope instability. Further, the Sienna Project site is not mapped within a liquefaction hazard potential area as designated by the CGS, as their mapping efforts have not reached the region of the site. The Sienna Project site is also not included within a liquefaction hazard zone designated by San Bernardino County on their Geologic Hazard Overlay Maps (Appendix G of this EIR). Therefore, the potential for landslide or slope instability, liquefaction, or other geologic hazards related to liquefaction, such as lateral spreading is considered low as well.

According to the Geotechnical Study prepared for the Sienna Project, the Sienna Project may be susceptible to subsidence and ground fissuring (Appendix G of this EIR). The observed fissuring on the site parcels is considered to be the result of subsidence and subsidence is expected to continue. The amount and location of expected subsidence cannot be reliably predicted with the information that is currently available. Future subsidence may negatively impact level-sensitive structures such as gravity flow pipelines. This is considered a potentially significant impact. However, implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce the potential impacts associated with subsidence and ground fissuring. Additionally, construction and operation of the Sienna Project would be carried out in accordance with the applicable state and local regulations pertaining to earthquake hazards reduction, including the most recent CBC to further reduce potential impacts.

The Sienna Project is a solar energy generation project that would not introduce any structures intended for habitation. Thus, Project operation would not increase or exacerbate the potential for ground failure, including landslide, lateral spreading, subsidence, liquefaction or collapse.

Based on the evaluation above, the Sienna Project may be susceptible to subsidence and ground fissuring. However, with implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, impacts are considered less than significant with mitigation incorporated.

CALCITE SUBSTATION

No Impact. The Calcite Substation is located on gently sloping to flat terrain and is not on or adjacent to any areas identified as existing landslide or landslide hazard. No areas of landslide susceptibility are indicated at the Calcite Substation site. Therefore, there would be no impact related to construction triggered landslides or slope failures at the proposed Calcite Substation site (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with landslides, lateral spreading, subsidence, liquefaction, or collapse. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

GEO-1 **Prepare Geotechnical Report(s) as Part of Final Engineering for the Sienna Project and Implement Required Measures.** Facility design for all Sienna Project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the Sienna Project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

- Site preparation
- Soil bearing capacity
- Appropriate sources and types of fill
- Potential need for soil amendments
- Structural foundations
- Grading practices
- Soil corrosion of concrete and steel
- Erosion/winterization
- Seismic ground shaking
- Liquefaction
- Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and

shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the Sienna Project applicant. The final geotechnical and/or civil engineering report shall be submitted to San Bernardino County Public Works Department for review and approval prior to issuance of building permits.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

With implementation of Mitigation Measure GEO-1, potential impacts associated with subsidence and ground fissuring would be reduced to a less than significant level.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.7-4 ***Would the Project 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?***

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As stated above, expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. According to the Geotechnical Study prepared for the Sienna Project, the Atterberg limit test results indicate that the on-site soils are generally medium to high plasticity clayey soils (Appendix G of this EIR).

Unless properly mitigated, shrink-swell soils could exert additional pressure on buried structures and electrical connections producing shrinkage cracks that could allow water infiltration and compromise the integrity of backfill material. These conditions could be worsened if structural facilities are constructed directly on expansive soil materials. This potential impact would be significant as structures could be damaged by these types of soils. In addition, the on-site soils, particularly clay/silty clay, are known to be corrosive. Corrosive soils can damage underground utilities including pipelines and cables or weaken roadway structures. A site-specific geotechnical investigation would be required at the Sienna Project site to determine the extent and effect of problematic soils. Therefore, implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce potential impacts associated with expansive and corrosive soils to a less than significant level.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. The soils underlying the proposed Calcite Substation site are granular with high percentages of sand and have a low potential for expansion.

Corrosion potential of the soils underlying the proposed Calcite Substation site range from moderate to high potential to corrode uncoated steel and low to moderate potential to corrode concrete. In areas where moderate to highly corrosive subsurface soils underlie the proposed Calcite Substation site, the corrosive soils could have a detrimental effect on concrete and metals. Depending on the degree of corrosivity of subsurface soils, concrete and reinforcing steel in concrete structures and bare-metal structures exposed to these soils could deteriorate, eventually leading to structural failures. Implementation of MM GEO-7 as described in Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR* and provided below, would ensure that Calcite Substation components would not be damaged by unsuitable soils causing injury to project workers. Therefore, the impact would be less than significant with mitigation (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with corrosive soils. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM GEO-7 **Assess Unstable Soils.** The project-specific geotechnical investigation(s) shall include evaluation of expansive and corrosive soils underlying Project components and if necessary, develop recommendations to protect project structures from expansive or corrosive soil conditions. If expansive soils are identified, geotechnical recommendations to mitigate potential problems from expansive soils could include over-excavation and replacement with non-expansive fill, ground treatment processes, or redirection of surface water and drainage away from components underlain by expansive soils. If corrosive soils are identified, geotechnical design recommendations for the protection of steel reinforcement, concrete, and buried metal structural components could include use of corrosion resistant materials and coatings, increased thickness of project components exposed to corrosive soils, or use of passive or active cathodic protection systems. The geotechnical recommendations shall be incorporated in the final project design to reduce impacts related to expansive or corrosive soils. The geotechnical investigation report and project plans with any modifications made based on geotechnical recommendations should be submitted to CSLC for review 60 days prior to the start of construction.

Significance after Mitigation

SIENNA PROJECT

With implementation of Mitigation Measure GEO-1, potential impacts associated with expansive and corrosive soils would be reduced to a less than significant level.

CALCITE SUBSTATION

With implementation of MM GEO-7 as described in Section 4.7, Geology and Soils, of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with corrosive soils would be reduced to a less than significant level.

Impact 3.7-5 ***Would the Project 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?***

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. The Project may include an O&M building which may involve the construction of a septic tank and leach field. According to the Geotechnical Study (Appendix G of this EIR), the clayey nature of the on-site soils may present a hazard for the use of septic tanks or other wastewater disposal systems, as well as infiltration systems for stormwater management. Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would ensure that site-specific design recommendations, made by a licensed geotechnical or civil engineer, are identified to address potential impacts associated with soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems. As such, impacts would be reduced to a less than significant level.

CALCITE SUBSTATION

No Impact. The proposed Calcite Substation would be primarily an unmanned substation and would not need restroom facilities, other than portable toilets, and would not require a wastewater disposal system. Therefore, no impact would occur (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with septic tanks or alternative wastewater disposal systems. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

With implementation of Mitigation Measure GEO-1, potential impacts associated with soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems would be reduced to a less than significant level.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

Impact 3.7-6 Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As explained in Section 3.7.1, the surficial geology of the Project area has a low paleontological sensitivity that increases with depth. Fine-grained Quaternary old (Pleistocene) sediments (e.g., Qoa) may underlie Quaternary young (Holocene) deposits and coarse-grained Quaternary old (Pleistocene) sediments at unknown depths within the Project area at depths of 10 feet or greater below ground surface, and the Project area is determined to have low paleontological sensitivity for paleontological resources at depths of 10 feet or less and high paleontological sensitivity at depths exceeding 10 feet below ground surface.

Construction of the Sienna Project would include site preparation, grading and earthwork, concrete foundations, structural steel work, electrical/instrumentation work, collector line installation, architecture, and landscaping. Ground disturbing activities are expected to be limited to the construction of the access roads, site grading, electrical trenching, foundation work for O&M building and substation, boring for transmission lines, and panel post installations. Groundwork is generally shallow, with trenching to moderate depths (3-5 feet). As proposed, ground disturbing activities associated with trenching would be generally shallow (3-5 feet), while proposed foundations for mounting structures can extend up to 10 feet below ground surface. Therefore, the proposed Project has potential for impacts to scientifically significant vertebrate fossils as a result of construction activities.

This is considered a potentially significant impact. However, implementation of Mitigation Measure GEO-2, which requires implementation of a paleontological worker environmental awareness program, and Mitigation Measure GEO-3, which requires paleontological monitoring during ground disturbing activities where ground disturbance exceeds 10 feet within intact Holocene and Pleistocene deposits, would reduce potentially significant impacts to a less than significant level.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. The Calcite Substation site is mapped entirely as underlain by Holocene to late Pleistocene young alluvial fan deposits. These sediments are assigned a low (PFYC Class 2) potential for fossils. Although it is unlikely that fossil resources will be impacted by construction, implementation of MMs PAL-1a and PAL-1b as described in Section 4.13, Paleontological Resources, of the *Stagecoach Solar Project Draft EIR* and provided below, would reduce potential impacts to fossil resources to less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with paleontological resources. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

GEO-2: **Paleontological Worker Environmental Awareness Program (WEAP).** Prior to the start of construction, workers shall participate in a WEAP led by a qualified paleontologist who meets the minimum qualifications per standards set forth by the Society of Vertebrate Paleontology (2010). Construction personnel shall be alerted to

the potential for paleontological resources to be present on site and educated on the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. This information should be conveyed to all new staff during WEAP presentation.

A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms shall be submitted to the San Bernardino County Land Use Services Department, Planning Division, upon the County's request.

GEO-3: **Paleontological Monitoring.** Initially, full-time monitoring should be conducted during ground construction activities (i.e., grading, trenching, foundation work, and other excavations) where ground disturbance exceeds 10 feet in depth within intact Holocene and Pleistocene deposits (i.e., Qa, Qs, Qc, Qog). Monitoring should be conducted by a qualified paleontological monitor or cross-trained monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the Society of Vertebrate Paleontology (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources, or requisite field experience and training and a B.S. or B.A. degree in a similar scientific field. The duration and timing of the monitoring should be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted based on the specific geologic conditions, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. If paleontological resources are discovered, the qualified paleontologist should establish an avoidance buffer, develop a paleontological recovery plan in consultation with the County, and implement the specifics of the recovery plan.

CALCITE SUBSTATION

The following mitigation measures from Section 4.13, Paleontological Resources, of the *Stagecoach Solar Project Draft EIR* is applicable to the proposed Calcite Substation:

MM PAL-1a: Paleontological Worker Environmental Awareness Program. A County of San Bernardino qualified professional paleontologist shall be retained by the project prior to beginning construction. They shall have an advanced degree (Masters or higher) in geology, paleontology, biology, or related disciplines (exclusive of archaeology). Additionally, they shall have at least 5 years professional experience with paleontological (not including cultural) resources, including the collection, identification, and curation of the resources (County of San Bernardino Development Code § 82.20.040).

The qualified professional paleontologist shall prepare a Paleontological Worker Environmental Awareness Program (WEAP), and training shall be provided for all staff who will be onsite during excavations. The WEAP shall show what local Pleistocene fossils look like in general, where they may appear in the project, and how to proceed should material suspected to be a fossil is encountered. If COVID-19

protocols are in place, a digital presentation which workers may view on their phones is recommended.

MM PAL-1b: Unanticipated Fossil Discovery. Should fossils be encountered, construction work within 25 feet of the find(s) shall be halted and directed away from the discovery until the qualified professional paleontologist (defined in MM PAL-1a) can be contacted and come to the site to assess the significance of the resource. Where warranted, fossils will be excavated or otherwise recovered. Field data forms shall be used to record pertinent geologic data; stratigraphic sections shall be measured, and appropriate sediment samples will be collected and submitted for analysis from each fossil locality. Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a County of San Bernardino designated paleontological curation facility. Reporting shall be to CEQA standards (County of San Bernardino Development Code § 82.20.030).

Significance after Mitigation

SIENNA PROJECT

With implementation of Mitigation Measure GEO-2 and GEO-3, potentially significant impacts to paleontological resources would be reduced to a less than significant level.

CALCITE SUBSTATION

With implementation of MMs PAL-1a and PAL-1b as described in Section 4.13, Paleontological Resources, of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with paleontological resources would be reduced to a less than significant level.

This page is intentionally blank.

3.8 Greenhouse Gas Emissions

The Greenhouse Gas (GHG) Emissions section describes the existing GHG conditions, applicable laws, policies, and regulations associated with GHGs in proximity to the Project, and describes the potential impacts to the regional climate that would result from construction and operation of the Project. The GHG section also identifies feasible mitigation measures that would avoid or reduce significant impacts, where applicable. The impact assessment provides an evaluation of potential adverse effects with regards to GHG emissions based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. Information contained in this section is summarized from the *Air Quality and Greenhouse Gas Study* prepared by Rincon Consultants, Inc. (Appendix C of this EIR) and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.8.1 Environmental Setting

Climate change is a cumulative global issue. The California Air Resources Board (CARB) and United States Environmental Protection Agency (EPA) regulate GHG emissions within the State of California and the United States, respectively. While the CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. The CARB has divided California into regional air basins. The Project is in unincorporated San Bernardino County, which is within the Mojave Desert Air Basin (MDAB), and under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD).

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages.

The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatons of anthropogenic CO_2 was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (Appendix C of this EIR).

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2),

methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (Appendix C of this EIR).

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, CH_4 has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis. N_2O has a GWP of 273 (Appendix C of this EIR).

The accumulation of GHGs in the atmosphere regulates the earth’s temperature. Without the natural heat-trapping effect of GHGs, the earth’s surface would be about 33 degrees Celsius (°C) cooler. However, since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by 47 percent, 156 percent, and 23 percent, respectively, primarily due to human activity. GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally (Appendix C of this EIR).

Greenhouse Gas Emissions Inventory

Global Emissions Inventory

Worldwide anthropogenic emissions of GHGs totaled approximately 49,000 million metric tons (MMT) of CO_2e in 2010. Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO_2 was the most abundant, accounting for over 75 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while N_2O and fluorinated gases accounted for 6 percent and 2 percent respectively (Appendix C of this EIR).

United States Emissions Inventory

Total U.S. GHG emissions were 6,558 MMT of CO_2e in 2019. Emissions decreased by 1.7 percent from 2018 to 2019; since 1990, total U.S. emissions have increased by an average annual rate of 0.06 percent for a total increase of 1.8 percent between 1990 and 2019. The decrease from 2018 to 2019 reflects the combined influences of several long-term trends, including population changes, economic growth, energy market shifts, technological changes such as improvements in energy efficiency, and decrease carbon intensity of energy fuel choices. In 2019, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of nationwide GHG emissions while the commercial and residential end-use sectors accounted for 16 percent and 15 percent of nationwide GHG emissions, respectively, with electricity emissions distributed among the various sectors (Appendix C of this EIR).

California Emissions Inventory

Based on the CARB California Greenhouse Gas Emissions for 2000 to 2020, California produced 369.2 MMT of CO_2e, which is 35.3 MMT of CO_2e lower than 2019 levels and 61.8 MMT of CO_2e below the 2020 GHG Limit of 431 MMT of CO_2e. The 2019 to 2020 decrease in emissions is likely due in large part to the impacts of the COVID-19 pandemic. Economic recovery from the pandemic may result in emissions increases over the next few years. As such, the total 2020 reported emissions are likely an anomaly, and any near-term increases in annual emissions should be considered in the context of the pandemic. The most notable highlights in the 2022 edition inventory include:

- The transportation sector showed the largest decline in emissions of 27 $MMTCO_2e$ (16 percent) compared to 2019. This decrease was most likely from light duty vehicles after shelter-in-place orders were enacted in response to the COVID-19 pandemic.
- Industrial sector emissions dropped 7 $MMTCO_2e$ (9 percent) compared to 2019. The decrease is driven by lower emissions from both the refining sector and the oil and gas production sector.
- Electricity sector emissions remained at a similar level as in 2019 despite a 44 percent decrease in in-state hydropower generation (due to below average precipitation levels), which was more than compensated for by a 10 percent growth in in-state solar generation and cleaner imported electricity incentivized by California's clean energy policies.
- Between 2019 and 2020, California's Gross Domestic Product (GDP) contracted 2.8 percent while the GHG intensity of California's economy (GHG emissions per unit GDP) decreased 6.2 percent (CARB 2022a).

As shown in Table 3.8-1, combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2020, accounting for approximately 38 percent of total GHG emissions in the State.

Table 3.8-1. California Greenhouse Gas Emissions Inventory 2000 to 2020

Sector	Total 2000 Emissions ($MMTCO_2e$)	Total 2020 Emissions ($MMTCO_2e$))
Agriculture	30.8	31.6
Commercial and Residential	44.2	38.7
Electric Power	104.7	59.5
Industrial	93.0	73.3
Transportation	178.5	139.9
Recycling and Waste	7.1	8.9
High GWP Gases	6.3	21.3

Source: CARB 2022b
Notes: GWP=global warming potential; MMTCO2e =million metric tons of CO2 equivalent

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California.

The *California Natural Resources Agency's Fourth Climate Change Assessment* (Fourth Assessment) produced updated climate projections that provide state-of-the-art understanding of different possible climate futures for California. The science is highly certain that California (and the world) will continue to warm and experience greater impacts from climate change in the future. While the IPCC and the National Climate Assessment have released descriptions of scientific consensus on climate change for the world and the U.S., respectively, the Fourth Assessment summarizes the current understanding of climate impacts and adaptation options in California (California Natural Resources Agency 2018). Projected changes in California include:

- **Temperature Increases:** If GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historical average by:
    - 2.7 Fahrenheit (°F) from 2006 to 2039
    - 5.8°F from 2040 to 2069
    - 8.8°F from 2070 to 2100
- **Wildfire Occurrence Increases:** One Fourth Assessment model suggests large wildfires (greater than 25,000 acres) could become 50 percent more frequent by the end of century if emissions are not reduced. The model produces more years with extremely high areas burned, even compared to the historically destructive wildfires of 2017 and 2018. By the end of the century, California could experience wildfires that burn up to a maximum of 178 percent more acres per year than current averages.
- **Sea-Level Rise:** If emissions continue at current rates, the Fourth Assessment model results indicate that total sea-level rise by 2100 is expected to be 54 inches, almost twice the rise that would occur if GHG emissions are lowered to reduce risk.
- **Snowpack Melt:** By 2050, the average water supply from snowpack is projected to decline to two-thirds from historical levels. If emissions reductions do not occur, water from snowpack could fall to less than one-third of historical levels by 2100.
- **Agricultural Production Declines:** Agricultural production could face climate-related water shortages of up to 16 percent in certain regions. Regardless of whether California receives more or less annual precipitation in the future, the state will be dryer because hotter conditions will increase the loss of soil moisture (California Natural Resources Agency 2018).

3.8.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

Federal

At the federal level, there is currently no overarching law related to climate change or the reduction of GHGs. The U.S. EPA is developing regulations under the Clean Air Act (CAA) to be adopted in the near future, pursuant to the U.S. EPA's authority under the CAA. Foremost amongst recent developments have been the settlement agreements between the U.S. EPA, several states, and nongovernmental organizations to address GHG emissions from electric generating units and refineries, the U.S. Supreme Court's decision in *Massachusetts v. EPA*, and U.S. EPA's "Endangerment Finding," "Cause or Contribute Finding," and "Mandatory Reporting Rule."

Although periodically debated in Congress, no federal legislation concerning GHG limitations has yet been adopted. In *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the United States Court of Appeals upheld the U.S. EPA's authority to regulate GHG emissions under CAA. Furthermore, under the authority of the CAA, the EPA is beginning to regulate GHG emissions starting with large stationary sources. In 2010, the U.S. EPA set GHG thresholds to define when permits under the New Source Review Prevention of Significant Deterioration standard and Title V Operating Permit programs are required for new and existing industrial facilities. In 2012, U.S. EPA proposed a carbon pollution standard for new power plants.

USEPA "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al*. ([2007] 549 U.S. 05-1120) held that USEPA has the authority to regulate motor-vehicle GHG emissions under the federal CAA. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that establishes the GHG permitting thresholds that determine when federal CAA permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

State

The legal framework for GHG emission reduction in California is built upon executive orders, legislation, and regulations. The major components of California's climate change initiative are summarized below.

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be implemented fully, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

California Advanced Clean Trucks Program

In June 2020, CARB approved the Advanced Clean Trucks regulation, which requires manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. In addition, the

regulation requires company and fleet reporting for large employers and fleet owners with 50 or more trucks. CARB estimates that implementation of this regulation will reduce GHG emissions by a total of approximately 29 MMT of CO_2e between 2020 and 2040 relative to the business-as-usual baseline. By 2040, emissions are expected to be reduced by approximately four percent annually compared to the business-as-usual forecast. By 2045, all new trucks sold in California must be zero-emission.

Executive Order N-79-20

On September 23, 2020, the governor issued Executive Order (EO) N-79-20, which sets a new statewide goal of phasing out gasoline powered vehicles and equipment. The executive order includes three main goals that CARB will be required to develop regulations for. The order requires that by 2035, all in-states sales of new passenger cars and trucks be 100 percent zero-emissions. By 2045, 100 percent of medium-and-heavy-duty vehicles operating in the State will be zero-emissions where feasible and by 2035 for drayage trucks. Also, by 2035, all off-road vehicles and equipment will be 100 percent zero emissions.

Executive Order S-3-05

Executive Order S-3-05, signed by previous Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbating California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Executive Order B-55-18

On September 10, 2018, the governor issued EO B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by Senate Bill (SB) 375, SB 32, SB 1383, and SB 100.

Executive Order S-01-07

This order, signed by Governor Schwarzenegger, sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

CARB Resolution 07-54

The CARB Resolution 07-54 establishes 25,000 metric tons of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold was just over 0.005 percent of California's total inventory of GHG emissions for 2004.

Assembly Bill 32

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code Section 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The *Climate Change Scoping Plan* (Scoping Plan) is required by AB 32 to be updated at least every five years. The latest update, the *2017 Scoping Plan Update*, addresses the 2030 target established by Senate Bill (SB) 32, as discussed below, and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the *2017 Scoping Plan Update* builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

CLIMATE CHANGE SCOPING PLAN

The Scoping Plan released by CARB in 2008 outlined the state's strategy to achieve the AB 32 goals. This Scoping Plan, developed by CARB in coordination with the Climate Action Team, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 million $MTCO_2e$ requires the reduction of 169 million $MTCO_2e$, or approximately 28.3 percent, from the state's projected 2020 'business as usual' (BAU) emissions level of 596 million $MTCO_2e$.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 million $MTCO_2e$, only a 16 percent reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions.

In May 2014, CARB developed, in collaboration with the Climate Action Team, the *First Update to California's Climate Change Scoping Plan* (Update), which shows that California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32. In accordance with the United Nations Framework Convention on Climate Change, CARB is beginning to transition to the use of the AR4's 100-year GWPs in its climate change programs. CARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 million $MTCO_2e$. Therefore, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 million MTCO2e in the initial Scoping Plan.

The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by Senate Bill (SB) 32, discussed below, and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing

the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022. The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, and the capture and storage of carbon.

The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which extended California's GHG reduction programs beyond 2020. Senate Bill 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. Senate Bill 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill 100 of 2018

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. Senate Bill 100 also creates new standards for the Renewable Portfolio Standard (RPS) goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. California must procure 100 percent of its energy from carbon free energy sources by the end of 2045.

Renewable Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08, S-21-09, SB 350, and SB 100.

The RPS is included in CARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector.

Senate Bill 350

The RPS program was further accelerated in 2015 with SB 350 which mandated a 50 percent RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65 percent of RPS procurement to be derived from long-term contracts of 10 or more years.

Senate Bill 375

Senate Bill 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The updated GHG emission reduction targets took effect October 1, 2018.

Senate Bill 1368

Senate Bill 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed by the Governor in September 2006. Senate Bill 1368 requires the California Public Utilities Commission (CPUC) to establish a GHG emission performance standard for baseload generation from investor-owned utilities by February 1, 2007. The California Energy Commission (CEC) also was required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC. The Solar Facility meets the criteria of a renewable energy generation facility as defined in Chapter 8.6 of Division 15 of the Public Resources Code and therefore is determined by rule to comply with the GHG Emission Performance Standards requirements of SB 1368.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines in the CCR. The amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other GHG reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. In addition, consideration of several qualitative factors may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The Guidelines do not set or dictate specific thresholds of significance.

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix G of the CEQA Guidelines.
- The Guidelines are clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The Guidelines promote the advantages of analyzing GHG impacts on an institutional, programmatic level, and, therefore, approve tiering of environmental analyses and highlights some benefits of such an approach.
- EIRs must specifically consider a project's energy use and energy efficiency potential, pursuant to Appendix F of the CEQA Guidelines.

Regional

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG is the designated metropolitan planning organization (MPO) for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

In September 2020, SCAG adopted the 2020-2045 RTP/SCS. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the NAAQS as set forth by the federal CAA (see Section 3.4, Air Quality, of this EIR). The following SCAG goal is applicable to the Project: Reduce greenhouse gas emissions and improve air quality. As a solar generation facility, the proposed Project would improve air quality by reducing the use of fossil fuels in energy production.

Local

San Bernardino County Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The proposed Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Relevant policies of the *San Bernardino County Policy Plan* are summarized below:

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.

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

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 ELEMENT

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 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 Sienna 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. 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.

3.8.3 Impacts Analysis

This section presents the methodology used for the evaluation, provides the significance criteria used for considering Project impacts related to GHGs, provides an impact evaluation, and identifies feasible mitigation measures to avoid or minimize potential impacts, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to GHG emissions are considered significant if the Project would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. quantify greenhouse gas emissions resulting from a project; and/or
2. rely on a qualitative analysis or performance based standards.

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and;
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

> Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Most individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, consistency with a regional GHG reduction plan, or consistency with statewide regulations adopted to reduce GHG emissions. A project may not have an impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. Section 15064[h][3]).

Section 15064.4 of the *CEQA Guidelines* recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which the project may increase or reduce GHG emissions, whether a project exceeds an applicable significance threshold, and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHG emissions.

CEQA Guidelines Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, as long as any threshold chosen is supported by substantial evidence (*CEQA Guidelines* Section 15064.7[c]).

According to *CEQA Guidelines* Section 15183.5, projects can tier off of a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in their white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (AEP 2016). However, the County of San Bernardino's *Greenhouse Gas Emissions Reduction Plan* (2011) does not address SB 32 or post-2020 GHG emissions. The Sienna Project would be operational post-2020. Therefore, for CEQA purposes, the Sienna Project cannot tier off the *Greenhouse Gas Emissions Reduction Plan*.

The next best approach would be to use a quantitative threshold from the local air district. Thus, for the purposes of this analysis, thresholds developed by the MDAQMD are considered to determine the significance of GHG emissions. The MDAQMD *CEQA and Federal Conformity Guidelines* provides an

annual threshold of 100,000 tons CO_2e and a daily threshold of 548,000 tons CO_2e for short-term phases (less than one year). The annual threshold of 100,000 tons CO_2e is used in this analysis but converted into the MT CO_2e, the threshold is 90,718 MT CO_2e.

Methodology

Sienna Project

The Sienna Project-related direct and indirect emissions of GHGs were estimated using the similar methods for quantification of criteria air pollutants, as described in Section 3.4, Air Quality, of this EIR. Emissions were estimated using existing conditions, Project construction and operations information, as well as a combination of emission factors from various sources. The analysis relied on CARB's on-road vehicle emission factor model (EMFAC2017), CARB's 2017 Off-Road Equipment Inventory Model (OFFROAD2017), and emission factors obtained from the USEPA AP-42 *Compilation of Air Pollutant Emissions Factors* (2006). The EMFAC2017 model was used to develop CO_2, CH_4, and N_2O emission estimates. These emissions results were used to calculate CO_2e.

Temporary and annual Project emissions were estimated based on equipment and construction schedule assumptions developed from similar solar projects and using appropriate emission factors. The AEP recommends that total construction GHG emissions resulting from a project be amortized over the project's estimated lifetime and added to GHG emissions (AEP 2016). The construction and decommissioning GHG emissions were summed together and divided over the Sienna Project's 30-year operational lifetime.

INDIRECT GREENHOUSE GAS EMISSIONS ASSOCIATED WITH WATER USE

The use of water in California can involve substantial energy consumption, depending on the source of the water and the use location relative to the source. Major portions of the state rely on imported water from the State Water Project (California Aqueduct), the Central Valley Project, the Colorado River Aqueduct, the All-American Canal, and similar large-scale water distribution systems. Moving water across the state involves considerable energy consumption for pumping and delivering the water to the use location. The use of groundwater can involve substantial energy consumption to pump water from deep aquifers. In addition to the energy consumption associated with wholesale water supply, energy is consumed during local treatment for potable use and for local delivery. Most of the energy associated with water supply is provided by electricity, which is generated from a variety of sources, including fossil-fueled power plants that produce GHGs. Consequentially, the use of water for dust control and grading compaction during construction and photovoltaic panel washing during operations results in indirect GHG emissions. Based on similar solar projects, approximately 400 acre-feet of water would be required over the Sienna Project's construction and 50 acre-feet of water would be needed during operation.

The Sienna Project may require water during construction for dust suppression. During operation the Sienna Project would require water for solar PV panel washing and facilities at the O&M buildings. Based on the energy factors in CPUC's *Embedded Energy in Water Studies* and assuming minimal treatment and delivery, it was estimated that each acre-foot of water requires 649 kilowatt-hours of electricity for Project area delivery. The amount of GHG emissions associated with the 649 kilowatt-hours was conservatively based on the emissions profile for statewide average provided in the California Emissions Estimator Model (CalEEMod) version 2020.4.0.

DISPLACED EMISSIONS

Operation of the Sienna Project would create renewable energy over the planned 30-year Project operational lifetime. This energy would displace GHG emissions that would otherwise be produced by existing power generation resources, including coal and natural gas/other non-renewables. The Sienna Project has the capacity to generate approximately 525 MW of electricity at peak sun exposure. Annual energy generation was estimated based on solar radiation at the Project area and annual operational time. The Sienna Project is assumed to displace a fraction of existing current annual power generated by fossil-fuels. Displaced GHG emissions were estimated assuming that generated solar energy would displace energy generated from fossil fuels in the California market and does not include the approximate 34 percent of the California electricity generated by non-combustion sources (Appendix C of this EIR).

Calcite Substation

According to Section 4.8, Greenhouse Gas Emissions, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation GHG analysis uses the California Emissions Estimator Model (CalEEMod; version 2020.4.0) software developed by CAPCOA. The direct and indirect effects of all project activities, including short-term, construction-related GHG emissions and the operation of the Calcite Susbtation, are quantified to determine overall project effects on GHG emissions. Significance is characterized by comparing the project's potential GHG emissions with the San Bernardino County review standard of 3,000 MTCO2e per year (California State Lands Commission 2021).

Impact Analysis

Impact 3.8-1 Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

SIENNA PROJECT

Construction, operation, and decommissioning of the Sienna Project would result in a relatively small amount of GHG emissions. Most emissions from the Sienna Project would be generated during construction and decommissioning activities.

Construction and Decommissioning – Less than Significant Impact. During construction, GHG emissions would be generated from the operation of off-road equipment, haul-truck trips, and on-road worker vehicle trips. Table 3.8-2 displays the Sienna Project's construction-related and decommissioning GHG emissions. The estimated total GHG emissions during Project construction would be approximately 7,144 MT CO_2e over the 12-month construction period. It was conservatively assumed that decommissioning of the Sienna Project would use the same type and amount of equipment in a similar schedule to construction. Therefore, decommissioning of the Sienna Project was estimated to generate an equivalent quantity of emissions as construction.[1] The construction and decommissioning annual GHG emissions do not exceed the MDAQMD threshold of 90,718 MT CO_2e per year. Estimated construction and decommissioning emissions related to the Sienna Project, amortized over the project's 30-year operational lifespan, would be approximately 476 MT CO_2e per year.

[1] This is a conservative estimate because on-road vehicles and off-site equipment would continue to improve in fuel efficiency resulting in reduced emissions over time, as such decommissioning emissions in 30 years would likely be substantially lower than construction emissions.

Table 3.8-2. Estimated Construction Emissions of Greenhouse Gases

	Emissions Source (MT CO_2e)				Total (MT CO_2e) per Year
	Off-Road	On-Site Mobile	Off-Site Mobile	Indirect GHG Emissions from Water Use	
Total Construction	2,822	22	4,254	46	7,144
Total Decommissioning	2,822	22	4,254	46	7,144
MDAQMD Threshold	**—**	**—**	**—**	**—**	**90,718**
Exceed Threshold?	**—**	**—**	**—**	**—**	**No**
Total Construction and Decommissioning	5,643	44	8,509	93	14,289
Amortized Emissions (30-year life)	188	1	284	3	476

Source: Appendix C of this EIR

MT=metric tons; CO_2e=carbon dioxide equivalent; GHG=greenhouse gases; MDAQMD=Mojave Desert Air Quality Management District

Note: Numbers have been rounded to nearest metric tons

Operation – Less than Significant Impact. Once the Sienna Project is constructed and operational, the Sienna Project would have no major stationary emission sources and would require minimal vehicular trips. The Sienna Project is anticipated to generate GHG emissions from area sources, energy usage and production, mobile sources, waste disposal, and water usage.

Table 3.8-3 summarizes operational emissions associated with the Sienna Project. Operation and maintenance of the Sienna Project would generate GHG emissions largely through motor vehicle trips to and from the Project area, on-site maintenance activities involving portable equipment and maintenance vehicles, and energy use associated with water consumption. As shown in Table 3.8-3, the Sienna Project would emit an estimated 150 MT CO_2e per year during operation. The total construction and decommissioning GHG emissions, amortized over 30 years, was added to the annual estimated operational emissions to estimate annual GHG emissions generated by the Sienna Project. Accounting for the amortized construction and decommissioning GHG emissions, the Sienna Project would emit an average of 627MT CO_2e per year over the operational life of the Project (assumed 30 years). The total Sienna Project GHG emissions do not exceed the MDAQMD threshold of 90,718 MT CO_2e per year with project emissions being 0.69 percent of the threshold.

Additionally, construction and operation of new renewable energy facilities would offset GHG emissions by replacing energy generated by fossil-fueled power plants. The Sienna Project would generate a maximum of 525 MW of electricity at any given time. Over the 30-year lifespan of the Sienna Project, approximately 35,240 gigawatt-hours (GWh) of electricity would be produced, which equates to 1,175 GWh of electricity per year (Appendix C of this EIR). The Sienna Project would generate approximately 1,175 gigawatt-hours (GWh) of solar-generated electricity each year that would be added to the power grid and be used in place of electricity generated by fossil-fuel sources. Based on the Sienna Project's projected annual electricity generation and the GHG emissions generated due to fossil-fuel combustion to generate the same level of electricity, the Sienna Project has the potential to displace 253,319 MT CO_2e per year and the net generation of annual GHG emissions would be -252,692 MT CO_2e, as shown in Table 3.8-3. As such, the Sienna Project would result in an overall lifetime reduction estimated at 7,599,573 MT CO_2e, resulting in a regional air quality benefit. Thus, the Sienna Project would not result in an increase in GHG emissions over its 30-year life and would be consistent with state and regional GHG reduction laws.

Table 3.8-3. Project Operation-Related Greenhouse Gas Emissions

Location	Emissions Source (MT CO_2e)				Total (MT CO_2e)
	Off-Road	On-Site Mobile	Off-Site Mobile	Indirect GHG Emissions from Water Use	
Operation	<1	15	130	6	150
Amortized Construction and Decommissioning Emissions	188	1	284	3	476
Annual Total	**188**	**8**	**354**	**9**	**627**
MDAQMD Threshold	**—**	**—**	**—**	**—**	**90,718**
Exceed Threshold?	—	—	—	—	**No**
Annual Displaced Emissions (MT CO_2e)	—	—	—	—	253,319
Net Annual GHG Emissions (MT CO_2e/Year)	—	—	—	—	(252,692)

Source: Appendix C of this EIR

MT=metric tons; CO_2e=carbon dioxide equivalent; GHG=greenhouse gases; MDAQMD=Mojave Desert Air Quality Management District

Note: Numbers have been rounded to nearest metric tons

Furthermore, the proposed on-site substation may feature circuit breakers that contain SF_6 gas, used as an insulator and an arc suppressor in the breakers. The GHG SF_6 is inert and non-toxic and is encapsulated in the breaker assembly. The gas has a substantial global warming potential because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF_6 would be released only in the unlikely event of a failure, leak, or crack in the circuit breaker housing. In addition, the equipment would comply with CARB's *Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear* regulations. CARB's current regulations require that switchgear not exceed a maximum allowable annual SF_6 emissions rate of 1.0 percent. All circuit breakers used for the Sienna Project would have a manufacturer-guaranteed SF_6 leakage rate of 0.5 percent per year or less per International Electro-technical Commission (IEC) standards. In compliance with CARB regulations, the applicant would be required to regularly inventory gas-insulated switchgear equipment, measure quantities of SF_6 and submit an annual report to CARB. With compliance with existing CARB regulations, the amount of SF_6 that could be released by the solar facility equipment would be minimal and would not result in a significant impact.

Based on the analysis above, the Sienna Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and impacts would be considered less than significant.

CALCITE SUBSTATION

Construction and O&M – Less than Significant Impact. According to Section 4.8, Greenhouse Gas Emissions, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction and operation of the Calcite Substation would not exceed the San Bernardino County's review standard of 3,000 $MTCO_2e$ per year. Projects that do not exceed 3,000 $MTCO_2e$ per year would be considered to be consistent with the County GHG Emissions Reduction Plan and determined to have a less than

significant individual and cumulative impact for GHG emissions (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with the generation of GHG emissions. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.8-2 Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

SIENNA PROJECT

Less than Significant Impact. As discussed in Impact 3.8-1, the Sienna Project would generate a relatively small amount of GHG emissions during Project construction and its operational lifetime. The Sienna Project's total GHG emissions do not exceed the MDAQMD threshold of 90,718 MT CO_2e per year.

The Sienna Project would also be consistent with the renewable energy goals under the *2022 Scoping Plan Update* and SB 100.The solar facility is consistent with the following specific electricity goals outlined in the *2022 Scoping Plan Update*:

- Sector GHG target of 38 MMT of CO2e in 2030 and 30 MMT of CO2e in 2035 Retail sales load coverage.
- Meet increased demand for electrification without new fossil gas-fired resources.
- Provide availability to support the increase in residential and commercial appliance conversion from current fuel to electric as products are replaced at end of life.

The Statewide goal to reduce GHG emissions to 40 percent below 1990 levels by 2030 has been established in SB 32. The *2022 Climate Change Scoping Plan Update* includes strategies to achieve SB 32 goals as well as further reduce emissions towards the ultimate goal of net zero (85 percent below 1990 emissions) by 2045. The SB 32 Scoping Plan update have included implementation of the RPS as an individual strategy. SB 100 accelerated the state's RPS Program by increasing California's procurement of electricity from renewable sources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045 (Appendix C of this EIR).

The Sienna Project would generate approximately 1,175 GWh of electricity each year or approximately 35,240 GWh over the Project's 30-year operational lifetime. This additional solar-generated energy would be added to the power grid and used in place of electricity generated by fossil-fuel sources and, thus would directly support energy goals under SB 100 and would be consistent with the 2022 Scoping Plan. Replacement of fossil-fuel sources with renewable solar energy would also displace GHG emissions, ultimately off-setting any GHG emissions produced by construction, decommissioning, and operation of the Sienna Project. Therefore, the Sienna Project would be consistent with state and regional plans to reduce GHG emissions and be consistent with the *2022 Climate Change Scoping Plan Update.*

As a result, the Sienna Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHG. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. According to Section 4.8, Greenhouse Gas Emissions, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation would allow the interconnection of the Stagecoach Solar Project in the Lucerne Valley Area (California State Lands Commission 2021). The Sienna Project also proposes to interconnect to the proposed Calcite Substation. The Stagecoach Solar Project and Sienna Project would produce electricity in a manner that improves California's ability to supply renewable energy to end-use customers and to achieve statewide renewable energy goals. Electricity from the solar generation plant would be used to serve the needs of California's customers and would facilitate compliance with California's RPS. The Calcite Substation would contribute to meeting the State's GHG reduction goals under AB 32 and subsequent targets for 2030 and beyond. Therefore, the Calcite Substation would not conflict with any applicable GHG management plan, policy, or regulation. This impact would be less than significant.

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with the potential to conflict with applicable policies, plans, or regulations adopted for the purpose of reducing GHG emissions. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

This page is intentionally blank.

3.9 Hazards and Hazardous Materials

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the Project in relation to hazards and hazardous materials. Information contained in this section is summarized from the *Phase I Environmental Site Assessment* (Phase I ESA) prepared by SWCA Environmental Consultants, Inc. (Appendix I of this EIR) and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.9.1 Existing Conditions

The Project site is situated within the Lucerne Valley of the southern Mojave Desert, in the southwestern portion of San Bernardino County, California. The majority of the Project parcels are vacant and unoccupied and are either active or former agricultural land or vacant desert land. As described below under historical property uses and property reconnaissance, some parcels include rural residences or farmsteads. Adjoining properties are similar in nature.

Records Review

The Phase I ESA includes a review of historic aerial photographs, historic topographic maps, governmental regulatory databases, and other regulatory and agency databases to evaluate the potentially adverse environmental conditions resulting from previous uses at the Sienna Project site and Calcite Substation site.

Historical Property Uses

SIENNA PROJECT

Review of historical aerial photographs and historical topographic maps found that the Sienna Project site historically included some agricultural and rural residential use in the 1940s or earlier. Between the 1940s and 1990s, farmland and the number of homes and farmsteads increased, but began dwindling again in the 1990s. In recent history, aerial photographs show the following:

- In the southwest portion of the Sienna Project site (north of Assessor Parcel Number (APN) 0452-062-24 and the south of APN 0452-062-22), the southern portion of a 2.5-acre area appears to have been used as a junkyard in the 2003 and in 2006 photographs. At least 50 vehicles were present in 2003.
- Much of the farmstead in the southeast of APN0452-062-23 was covered in junk and debris during the same period. Both areas were mostly cleaned up in 2009. The former junkyard still holds scrap and a few vehicles, and a group of 10 or more drums has been along the south of that area since 2013 or prior. The occupied area in the southeast corner of APN 0452-062-24 began accumulating vehicles in 2009. Over two dozen vehicles were present by 2013 and all had been removed by 2014.
- The occupied portion of APN 0452-112-24 has had two aboveground storage tanks (ASTs) visible on photographs from 2013 to 2020, and they are still present. The tanks have been within a secondary containment structure during this time. Part of the southern portion of APN 0452-121-42 began accumulating debris in 2009. One pile of approximately a dozen drums has been present since 2016. In the October 2020 photograph, a group of approximately 130 drums is adjacent to the southeast of an L-shaped structure. The drums are bundled in four-

drum groups as they would be for shipping and they appear consistent in color, possibly indicating that they are new and in good condition. Another group of approximately 40 drums sits 100 feet farther southeast. These drums are not bundled but appear similar in color to the larger group.

- Most occupied areas of the Sienna Project site experienced ebbs and flows of accumulated debris over time.
- Some areas on-site and nearby apparently had hundreds of loads of soil or soil amendments delivered and spread over the desert soils for farming. One example of this is at APN 0452-062-22.
- An 80-acre area adjoining the southeast of the Sienna Project site had been used for farming in the past. Between December 2019 and October 2020, that parcel added approximately 350 greenhouses and many more were under construction. Most greenhouses are 2,000 to 3,000 square feet in area. Approximately half of the 80 acres was covered in greenhouses. A 6-acre portion of the site includes over a dozen campers and a shanty-town of shacks. This is most likely an illegal marijuana growing operation, one of many that have appeared in the region in recent years.
- Also in 2020, a few dozen smaller marijuana growing operations appeared in the open area enveloped by the northern portion of the Sienna Project site, and many more appeared in the vicinity. These are each groups of two to 12 greenhouses surrounded by a fence, with a water tank for the plants and a camper for the caretaker.

CALCITE SUBSTATION

In 1952, the proposed Calcite Substation site appears to have been vacant land with a few unimproved roads. The most prominent road is where SR 247 crosses the parcel today. A few small structures adjoined the west. A triple electrical transmission line crossed through the southeast corner of the Calcite Substation site in 1969. A small disturbance at the locations of the mine prospect is first visible in the 1983 photograph. The Calcite Substation site does not appear to have changed significantly since that time, except that in 2020 there were three sets of parallel transmission lines, each with three cables.

In 1989, an area 0.15 mile west of the Calcite Substation site had what appeared to be a few mobile homes or semi-trailers, and some debris. More debris was present by 2005 and 2006. It appears the area was occupied. Debris was consolidated into a pile in the 2009 photograph, and the trailers or structures had also been moved together. In 2013 there were two half-mobile homes or RVs in a small fenced area. Two debris piles were southeast of them, and were 80 and 60 feet in diameter. In 2016 the RVs were gone, but the debris piles still remained in 2020.

What appears to be an illegal marijuana growing operation appeared 0.2 mile west-southwest of the Calcite Substation site in October 2020.

Landowner Interviews

SIENNA PROJECT AND CALCITE SUBSTATION

Landowner questionnaires covering land use topics such as: Past property use, stored chemicals and petroleum products, storage tanks, and known issues related to potential contamination were distributed to landowners. None of the respondents indicated having any knowledge of stored hazardous substances or petroleum products, 55-gallon drums, or any hazardous wastes generated

on-site. None of the respondents indicated knowledge of stained soil. ASTs or underground storage tanks (USTs); dumped, buried, or burned materials; or environmental liens or environmental AULs (Appendix I of this EIR).

Regulatory Database Review

An environmental database search report generated by Environmental Data Resources, Inc. (EDR), on January 20, 2022, was used to access environmental records for the Project site and the surrounding properties.

SIENNA PROJECT

A review of the EDR database report and supplemental records from federal and State regulatory databases identified the following (Appendix I of this EIR):

- The Howard Pettigrew property, located in the southwestern quadrant of the Sienna Project site at 13324 Locust Avenue (APN 0452-062-23), is identified in the UST and Statewide Environmental Evaluation and Planning System underground storage tank (SWEEPS UST) databases. The SWEEPS listing indicates that there were two or three USTs installed in 1988. These were one or two 280-gallon leaded gasoline tanks (the listing is unclear) and one 550-gallon leaded gasoline tank. The SWEEPS database has not been updated since 1994. A San Bernardino County Permit listing indicates that for a 1990 annual UST inspection the facility was inactive. No indications of leaks, spills, or potential contamination are identified in conjunction with this listing, and no active USTs are identified in current state records.
- The NB Nursery property, located in the southern portion of the Sienna Project site at 12881 Midway Avenue (APN 0452-121-12), is identified as having been in the state's Hazardous Waste Tracking System. This is an administrative database that has stored identification number information since the early 1980s and shipping manifest data since 1993. No indications of leaks, spills, or potential contamination are identified in conjunction with this listing.
- The Dan Pettigrew property, adjoining the south of the Sienna Project site at 12860 Locust Avenue, is identified as a UST site. The SWEEPS listing indicates that a 550-gallon leaded gasoline tank was installed in 1988. A San Bernardino County Permit listing indicates that for a 1995 annual UST inspection the facility was inactive. No indications of leaks, spills, or potential contamination are identified in conjunction with this listing, and no active USTs are identified in current state records.
- A petroleum AST is identified as adjoining the south of the Sienna Project site at 12332 Midway Avenue. The farmstead at this property is located 0.2 mile south of the Sienna Project site. No indications of leaks, spills, or potential contamination are identified in conjunction with this listing.
- EDR identified 26 unmapped sites (facilities with incomplete locational information). Twenty-five of the listings are not believed to be relevant to the Sienna Project site due to the type of listing or their distance from and/or location relative to the site. The remaining listing is the CDL site described above.
- No oil and gas wells or mines are mapped on the Sienna Project site.

- No gas or hazardous liquid pipelines are mapped on or in the vicinity of the Sienna Project site. No accidents (liquid) or incidents (gas) are mapped on or in the vicinity of the Sienna Project site.

CALCITE SUBSTATION

The proposed Calcite Substation site was not listed on hazardous materials site per the environmental database search report generated by EDR on January 20, 2022.

Property Reconnaissance

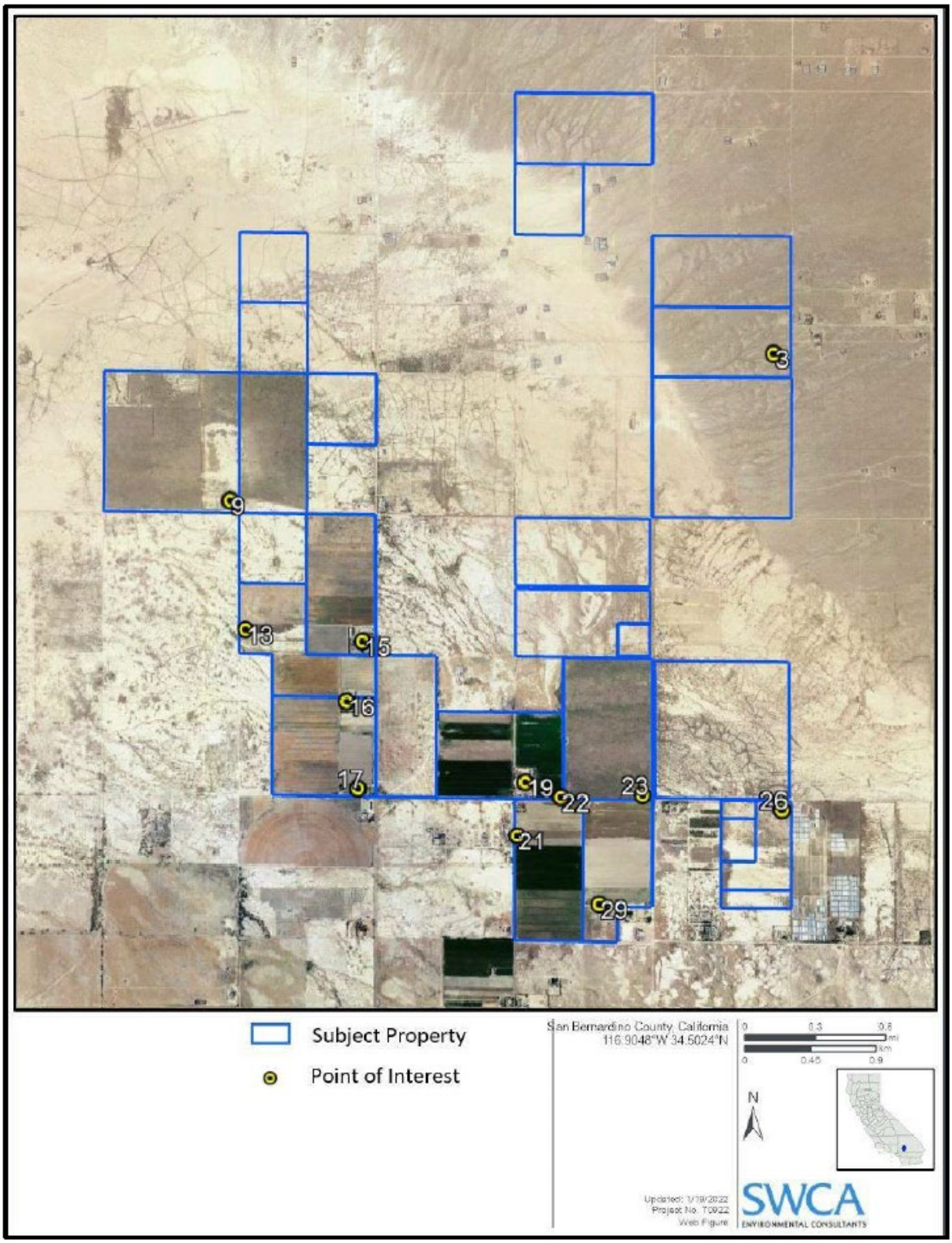
A Phase I ESA site investigation for the Project site was conducted on January 14 and January 20, 2022.

SIENNA PROJECT

The majority of the Project parcels are vacant and unoccupied. They are either active or former agricultural land, or vacant desert land. Some include rural residences or farmsteads. No evidence of significant leaks, spills, potential contamination was noted during the site reconnaissance. Points of interest on the Project site are described below and mapped in Figure 3.9-1. The numbers below (Point #) represent location point numbers in Figure 3.9-1. Omitted point numbers were non-noteworthy locations.

- Point 3 (APN 0452-361-47): Two shipping containers on native desert are shown in this area in 2020 aerial photography. The containers were open and metal beams, the type used for warehouse shelving, were strewn about the area. A single-wide mobile office trailer with two separate areas and a porta-john were present, likely to have been used as housing. Two rows of 12 abandoned greenhouses, many some full of dead plants, were present (Figure 3.9-2). Approximately 12 large shoe-box shaped metal frames were in row between them, some filled with thousands of black plastic landscaping pots, some with dead plants. A makeshift drainage ditch ran along the frames, and an underground pipe had been exposed. No pipelines are known to be in this area. It appeared that a somewhat elaborate watering system had been set up. No pesticides, chemicals, or petroleum products were noted in this area.
- Point 9 (APN 0452-071-11): The occupied area in the southeast of this parcel appears to contain several individual residences (Figure 3.9-3). The area appears to function as a water supply hub. The original farmstead structures were a small home, a shack possibly for a tenant, a garage, a shed, and a metal-sided barn. At the present time the home has had numerous makeshift additions; some are simply a camper integrated into the structure or parked alongside. The garage appears to be occupied, and a few occupied RV trailers are present. The occupied areas can be described as squalor. A well is on-site and three large upright water tanks are present, each possibly 5,000-gallons in capacity. It is notable that a pole-mounted security camera was present and another was mounted at a raised metal water tank. Also, the barn had a lookout platform on the roof, metal bars in the windows, and a locked steel man-door. A shipping container and a few semi-trailers were next to the barn. Vehicles were parked elsewhere on site.
- Point 13 (APN 0452-062-22): Many truckloads of soil or soil amendment had been dumped here in an area covering approximately 3.5 acres. No unusual odors, staining, or contents were observed.

Figure 3.9-1. Select Points of Interest on Sienna Project Site



Source: Appendix I of this EIR

Figure 3.9-2. Greenhouses at the Abandoned On-Site Growing Operation

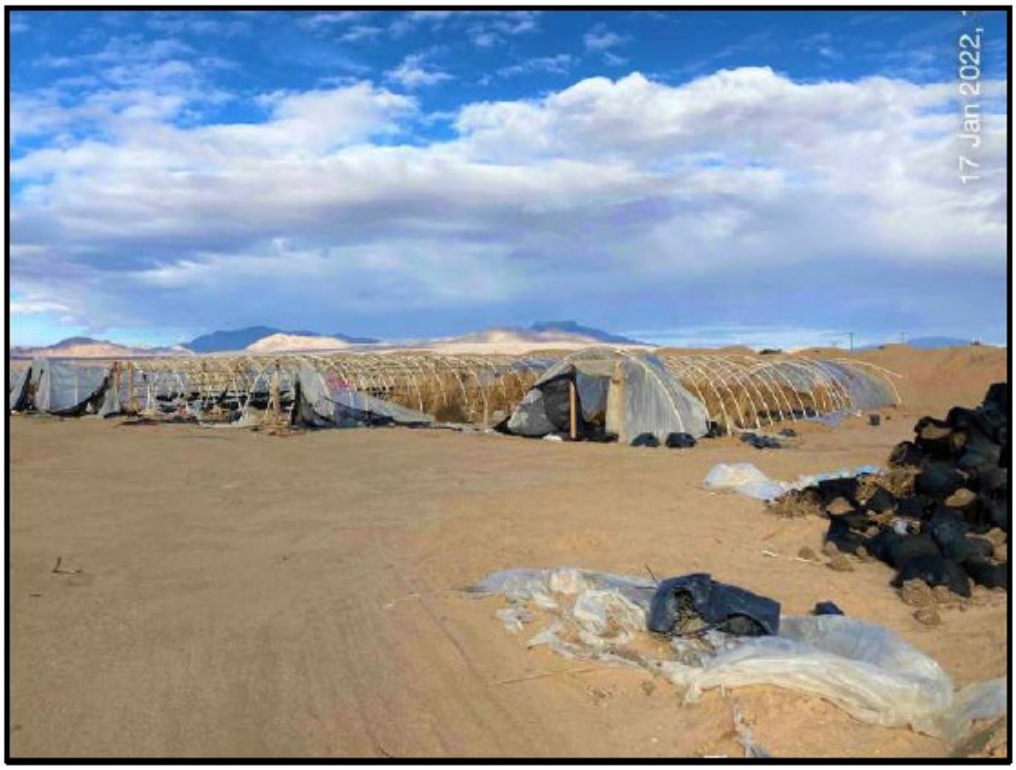


Figure 3.9-3. Occupied Area of APN 0452-071-11

- Point 15 (APN 0452-062-23): This occupied area includes a small home with residents, a one-car detached garage, a large open-sided hay barn, a smaller open-sided structure, a small barn with several stalls, and a medium-sized building set up as an open air workshop.
- Point 16 (APNs 0452-062-22 and 0452-062-24): Approximately 15 abandoned inoperable cars, trucks, and a double-decker bus are present. A location along the south of this area had approximately twenty-seven 55-gallon drums that appeared to be in fair condition. Three drums sat on pallets, apart from the others. Soil staining appeared light, surficial, and contained to a small area. Another of these drums had also leaked a small amount via the lid, but even less material had reached the pallet and soil. These stained areas are considered to be de minimis.
- Point 17 (APN 0452-062-24): This area has a home in poor condition. It appears to have a functioning domestic well. An open area west of the home had a few individual fair-condition 55-gallon drums on pallets, a few abandoned vehicles, and some debris piles.
- Point 19 (APN 0452-112-24): This farmstead has several structures including two small homes, a steel building set up as a repair area, a livestock barn, and an open-sided steel-roofed structure used for hay storage. Approximately twelve 55-gallon drums were noted in various parts of the occupied area and appeared to be in fair condition. Some were empty and simply used as trash cans. Two large upright water tanks are in the southeast of this area, with a 300-gallon fuel tank between them. The tank appears to have stored fuel in the past but lacked a functioning dispenser. It was not within secondary containment and de minimis staining was in the area. Two additional fuel tanks, estimated to be 300 and 500 gallons in capacity, were within a secondary containment structure along the east of the occupied area. An old, abandoned fuel tank sat to the north of these tanks. It was not in use and no significant staining was noted.
- Point 21 (APN 0452-121-12): An agricultural water well is along the south of a water holding pond that was dry at the time. The well was served by an electrical drop but its status could not be readily determined.
- Point 22 (APN 0452-112-24): A water well is present that appears to be operational. It is powered by a generator and has a concrete and a steel water tank.
- Point 23 (APN 0452-112-25): An open-sided steel-roofed structure and a standalone garage are present. An agricultural well is east of the structure and appears unused and inoperable. A cement water rank and a small steel shed are next to the well.
- Point 26 (APN 0452-121-48): A home and some old animal shelters are present. They were in poor condition and appeared to be abandoned. A concrete water tank and an inoperable well were east of the home. The well had no pump. Two debris dumping areas were south of the formerly occupied area. They were each approximately 60 feet across and debris was scattered not mounded. They appeared to contain only innocuous broken-up household debris, wood, metal, etc.
- Point 29 (APN 0452-121-42): A strip of land in the south of this parcel is used for storage of some equipment, materials, scrap, and debris. This included white goods, scrap metal, fencing, well casings, several dozen telephone poles, as many as 200 used tires, and approximately 16 inoperable vehicles. An old well-drilling truck with a tall boom was in the east of this area with a pile of well casings nearby. An inoperable agricultural well was under the rear of the rig as if work stopped in the middle of redrilling the well or drilling it deeper. A 35-

gallon tank on a stand was previously used for drip lubrication of the well. Part of the rig had been dismantled for repair. Two polyethylene mixing tanks on skids were south of the truck, one empty and one half full.

Adjoining properties are mostly vacant desert land and some agricultural land, farmsteads, and rural residences adjoin the Project site, primarily in the southern portion. Several likely-illegal marijuana growing operations adjoin the Project site. These are typically three to twelve greenhouses in a fenced area, with an RV camper for the caretaker and a water tank for the plants. An 80-acre farm with several hundred greenhouses adjoins the southeast of the Project site. At the time of the site visit it appeared to not be in operation. SWCA believes that this had been an illegal marijuana growing operation under the guise of a legal hemp growing operation. No obvious evidence of potential sources of contamination from adjoining properties was observed during the site reconnaissance.

Overall, no evidence of significant leaks, spills, potential contamination was noted during the site reconnaissance. No significant quantities of hazardous substances or petroleum products were observed that had been released to the environment, were under conditions indicative of a release to the environment, or under conditions that likely pose a material threat of a release to the environment.

No evidence for recognized environmental conditions (RECs) were observed or identified in connection with the Project site.

Airports

SIENNA PROJECT

The Sienna Project site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Sienna Project site is the Holiday Ranch Airport, a privately-owned airport, located approximately 10 miles northwest of the Sienna Project site. The nearest public airports are Apple Valley County Airport and Big Bear City Airport located approximately 15 miles northwest and south of the Sienna Project site, respectively.

CALCITE SUBSTATION

The proposed Calcite Substation site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Calcite Substation site is the Holiday Ranch Airport, a privately-owned airport, located approximately 7 miles northwest of the Calcite Substation site. The nearest public airport is the Apple Valley County Airport located approximately 13.50 miles northwest of the Calcite Substation site.

Fire Hazard

SIENNA PROJECT

The Sienna Project site is located in the unincorporated area of San Bernardino County. According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the Sienna Project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2022). According to the Countywide Plan Policy Map HZ-5 Fire Hazard Severity Zones, the Sienna Project

site is located within a Moderate Fire Hazard Severity Zone[1] and is located within a Fire Safety Overlay. According to the Hazards Element of the Policy Plan, the scale of the County's geography exposes people, buildings, and facilities to a wide range of natural and human-generated hazards such as hazardous materials, airports, and noise (County of San Bernardino 2020a).

CALCITE SUBSTATION

According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the proposed Calcite Substation site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2022). According to the Countywide Plan Policy Map HZ-5 Fire Hazard Severity Zones, the Calcite Substation site is located within a Moderate Fire Hazard Severity Zone[2].

3.9.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over 5 years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. The Comprehensive Environmental Response, Compensation, and Liability Act established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified.

Emergency Planning Community Right-to-know Act of 1986 (42 United states code 11011 et seq.)

The Emergency Planning Community Right-to-Know Act was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III. Emergency Planning Community Right-to-Know was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the disaster in Bhopal, India, in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. To reduce the likelihood of such a disaster in the U.S., Congress imposed requirements on both states and regulated facilities.

Emergency Planning Community Right-to-Know establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and "Community Right-to-

[1] San Bernardino Countywide Plan, HZ-5: "Fire Hazard Severity Zone". Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=355f9beb4a8f446e8869459e91d58431. Accessed July 14, 2022.

[2] Ibid.

Know" reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR 355). The Emergency Planning Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, SARA Title III is implemented through the California Accidental Release Prevention.

Federal Insecticide, Fungicide, and Rodenticide Act

The objective of Federal Insecticide, Fungicide, and Rodenticide Act is to provide federal control of pesticide distribution, sale, and use. All pesticides used in the U.S. must be registered (licensed) by the EPA. Registration assures that pesticides would be properly labeled and that, if used in accordance with specifications, they would not cause unreasonable harm to the environment. Use of each registered pesticide must be consistent with use directions contained on the label or labeling.

Federal Water Pollution Control Act (Clean Water Act)

The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The oil Spill Prevention, Control, and Countermeasure (SPCC) Program of the CWA specifically seeks to prevent oil discharges from reaching waters of the U.S. or adjoining shorelines. Further, farms are subject to the SPCC rule if they:

- store, transfer, use, or consume oil or oil products;
- could reasonably be expected to discharge oil to waters of the U.S. or adjoining shorelines. Farms that meet these criteria are subject to the SPCC rule if they meet at least one of the following capacity thresholds:
    - Aboveground oil storage capacity greater than 1,320 gallons; or
    - Completely buried oil storage capacity greater than 42,000 gallons.

However, the following are exemptions to the SPCC rule:

- Completely buried storage tanks subject to all the technical requirements of the underground storage tank regulations
- Containers with a storage capacity less than 55 gallons of oil
- Wastewater treatment facilities
- Permanently closed containers
- Motive power containers (e.g., automotive or truck fuel tanks)

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act was published in 1975. 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).

Its primary objective is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce by improving the regulatory and enforcement authority of the Secretary of Transportation. A hazardous material, as defined by the Secretary of Transportation is, any “particular quantity or form” of a material that “may pose an unreasonable risk to health and safety or property.”

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).

Occupational Safety and Health Administration

Occupational Safety and Health Administration’s (OSHA) mission is to ensure the safety and health of America's workers by setting and enforcing: Standards; providing training, outreach, and education; establishing partnerships, and; encouraging continual improvement in workplace safety and health. OSHA standards are listed in 29 CFR Part 1910.

The OHSA Process Safety Management of Highly Hazardous Chemicals (29 CFR Part 110.119) is intended to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals by regulating their use, storage, manufacturing, and handling. The standard intends to accomplish its goal by requiring a comprehensive management program integrating technologies, procedures, and management practices.

Resource Conservation and Recovery Act

The goal of the Resource Conservation and Recovery Act, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

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 Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources was formed in 1915 to address the needs of the state, local governments, and industry by regulating statewide oil and gas activities with uniform laws

and regulations. The Division supervises the drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and geothermal wells, preventing damage to: (1) life, health, property, and natural resources; (2) underground and surface waters suitable for irrigation or domestic use; and (3) oil, gas, and geothermal reservoirs. The Division's programs include: Well permitting and testing; safety inspections; oversight of production and injection projects; environmental lease inspections; idle-well testing; inspecting oilfield tanks, pipelines, and sumps; hazardous and orphan well plugging and abandonment contracts; and subsidence monitoring.

California Department of Toxic Substances Control

The DTSC regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff are responsible for ensuring that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

On January 1, 2003, the Registered Environmental Assessor program joined DTSC. The program certifies environmental experts and specialists as being qualified to perform a number of environmental assessment activities. Those activities include private site management, Phase I ESAs, risk assessment, and more.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health protects workers and the public from safety hazards through its programs and provides consultative assistance to employers. California Division of Occupational Safety and Health issues permits, provides employee training workshops, conducts inspections of facilities, investigates health and safety complaints, and develops and enforces employer health and safety policies and procedures.

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).

In California, any facility known to contain ACMs is required to have a written Asbestos Operations and Maintenance Program. Removal of ACMs must be conducted in accordance with the requirements of the Mojave 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.

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP) program was implemented on January 1, 1997, and replaced the former California Risk Management and Prevention Program. The CalARP program was enacted to prevent accidental releases of substances that can cause harm to the public and the environment, and to minimize damage if releases do occur.

The CalARP requires certain facilities (referred to as "stationary sources") which handle, manufacture, use, or store any regulated substances above threshold quantities to take actions to proactively prevent and prepare for accidental releases. Facilities subject to CalARP requirements must submit a Risk Management Plan (RMP).

The California Environmental Protection Agency (CalEPA) oversees the implementation of the CalARP program at the state level, while Certified Unified Program Agencies and/or Participating Agencies implement the CalARP program at the local level.

California Environmental Protection Agency

The CalEPA and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law x Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law.

Local

San Bernardino County Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The proposed Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Relevant policies and goals applicable to the proposed Project are as follows:

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.

HAZARDS ELEMENT

Policy HZ-1.2: New development in environmental hazard areas. We require all new development to be located outside of the environmental hazard areas listed below. For any lot or parcel that does not have sufficient buildable area outside of such hazard areas, we require adequate mitigation, including designs that allow occupants to shelter in place and to have sufficient time to evacuate during times of extreme weather and natural disasters.

- Flood: 100-year flood zone, dam/basin inundation area

- Geologic: Alquist Priolo earthquake fault zone; County-identified fault zone; rockfall/debris-flow hazard area, medium or high liquefaction area (low to high and localized), existing and County-identified landslide area, moderate to high landslide susceptibility area)
- Fire: high or very high fire hazard severity zone

Policy HZ-1.12: Local hazard mitigation plan implementation. We require adherence to the goals, objectives and actions in the Multi-jurisdictional Hazard Mitigation Plan and subsequent amendments to reduce and mitigate damages from hazards in the county.

Policy HZ-1.13: Fire protection planning. We require that all new development in County-designated Fire Safety Overlay and/or CAL FIRE-designated Very High Fire Hazard Severity Zones meet the requirements of the California Fire Code and the California Building Code as amended by the County Fire Protection District, including Title 14 of the California Code of Regulations fire safety requirements for any new development within State Responsibility Areas, as well as provide and maintain a Fire Protection Plan or Defensible Space/Fuel Modification Plan and other pre-planning measures in accordance with the County Code of Ordinances.

Policy HZ-1.14: Long-term fire hazard reduction and abatement. We require proactive vegetation management/hazard abatement to reduce fire hazards on existing private properties, along roadsides of evacuation routes out of wildfire prone areas, and other private/public land where applicable, and we require new development to enter into a long-term maintenance agreement for vegetation management in defensible space, fuel modification, and roadside fuel reduction in the Fire Safety Overlay and/or Very High Fire Hazard Severity Zones.

Policy HZ-1.15: Evacuation route adequacy. We coordinate with CAL FIRE, California's Office of Emergency Services, and other local fire districts to identify strategies that ensure the maintenance and reliability of evacuation routes potentially compromised by wildfire, including emergency evacuation and supply transportation routes.

Policy HZ-2.3: Safer alternatives. We minimize the use of hazardous materials by choosing and by encouraging others to use non-toxic alternatives that do not pose a threat to the environment.

Policy HZ-2.4: Truck routes for hazardous materials. We designate truck routes for the transportation of hazardous materials through unincorporated areas and prohibit routes that pass through residential neighborhoods to the maximum extent feasible.

Policy HZ-2.8: Proximity to noise generating uses. We limit or restrict new noise sensitive land uses in proximity to existing conforming noise generating uses and planned industrial areas.

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.

Policy HZ-3.1: Health risk assessment. We require projects processed by the County to provide a health risk assessment when a project could potentially increase the incremental cancer risk by 10 in 1 million or more in unincorporated environmental justice focus areas, and we require such assessments to evaluate impacts of truck traffic from the project to freeways. We establish appropriate mitigation prior to the approval of new construction, rehabilitation, or expansion permits.

Policy HZ-3.2: Studying and monitoring. We coordinate with state and regional regulatory entities to monitor pollution exposure, publicize pollution data, and identify solutions in unincorporated environmental justice focus areas. We work with state and regional regulatory entities to pursue grant funding to study cumulative health risks affecting such areas.

Policy HZ-3.3: Community emissions reduction plans. We assist the air quality management districts in establishing community emissions reduction plans for unincorporated environmental justice focus areas and implement, as feasible, those parts of the plans, that are within the jurisdiction and authority of the County, with particular emphasis in addressing the types of pollution identified in the Hazard Element tables.

San Bernardino County Fire Department

The San Bernardino County Fire Department, Hazardous Materials Division, is the Certified Unified Program Agency (CUPA) 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 Code of Ordinances

TITLE 2, DIVISION 3, FIRE PROTECTION AND EXPLOSIVES AND HAZARDOUS MATERIALS

San Bernardino County Code of Ordinances Section 23.06, 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. San Bernardino County Code of Ordinances 23.07, 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 AND ALLOWED LAND USES

San Bernardino County Code of Ordinances Section 82.13, Fire Safety Overlay, was created to provide greater public safety in areas prone to wildland brush fires by establishing additional development standards for these areas. San Bernardino County Code of Ordinances Section 82.16, Hazardous Waste 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

San Bernardino County Code of Ordinances Section 84.11, Hazardous Waste Facilities, includes provisions that apply to hazardous waste facilities in compliance with San Bernardino County Code of Ordinances Section 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.

3.9.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to hazards and hazardous materials, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to hazards and hazardous materials are considered significant if the Project would:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or
- 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; or
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school; or
- be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment; or
- for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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; or
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Methodology

This analysis evaluates the potential for the Project, as described in Chapter 2, Project Description, to result in significant impacts related to hazards and hazardous materials on or within the 1-mile buffer zone of the Project site. This analysis considers whether these conditions would result in an exceedance of one or more of the applied CEQA significance criteria as identified above.

As previously indicated, a Phase I ESA has been prepared for the Project site (Appendix I of this EIR). The evaluation of potential environmental impacts was based on materials that could result from Project construction and operational activities based on existing site conditions; expected construction practices, materials, and locations; duration of Project construction, and related activities.

Impact Analysis

Impact 3.9-1 Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

SIENNA PROJECT

Construction - Less than Significant Impact. The Sienna Project would develop and construct a utility-scale solar PV, BESS, and gen-tie line 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. Additionally, construction of the BESS would include graphite and lithium-ion batteries used in the storage system. Lithium-ion batteries contain cobalt oxide, manganese dioxide, nickel oxide, carbon, electrolyte, and polyvinylidene fluoride. 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. Additionally, transportation of the various materials associated with the Project would be in compliance with DTSC and the DOT's Hazardous Materials Regulations (HMR; 49 C.F.R., Parts 171-180), which applies to any material (including lithium-ion batteries associated with the Project's BESS) capable of posing an unreasonable risk to health, safety, and property when transported in commerce (DOT 2021).

Construction contractors would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities in compliance with the National Pollution Discharge Elimination System (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 3.10, Hydrology and Water Quality, of this EIR for more details).

Finally, in the event of a substantial accidental spill or release of a hazardous material at the Sienna 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 Sienna 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.

Compliance with the applicable federal, State, and local regulations would ensure that Project construction would not create a significant hazard to the public or the environment through the routine transport, use, storage, or disposal of hazardous materials during construction. Impacts are considered less than significant.

Operation - Less than Significant Impact. The Sienna 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 Sienna Project would develop a renewable energy facility on the 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 Sienna 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 Sienna 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 - Less than Significant Impact. At the end of the Sienna Project's operational term, the Applicant may determine that the Sienna 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 Sienna Project after its productive lifetime complies with all applicable local, State, and federal requirements. The Sienna 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 Sienna 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, the Sienna 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. If salvageable, batteries can 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 Sienna 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 Sienna Project is decommissioned. Upon removal of the Sienna 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 County Development Code Section 84.29.070.

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.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), hazardous materials could be released during construction of the proposed Calcite Substation as a result of improper handling, accidental spills or leaks, and/or due to leaking equipment or vehicles and could result in soil or water contamination. Human exposure to contaminated soil or water can have potential health effects from a variety of factors, including the nature of the contaminant and the degree of exposure (California State Lands Commission 2021).

SCE would be required to prepare a SWPPP and a Spill Prevention, Control, and Countermeasure (SPCC) Plan associated with the Calcite Substation. Compliance with the SWPPP, combined with the SPCC all other applicable health and safety regulations set forth by the County of San Bernardino, State, and federal agencies would reduce the potential for accidental spills and leaks of hazardous materials at the Calcite Substation site. The SWPPP and SPCC would reduce the potential for spills to occur through implementation of protocols for storage, transport, and handling of hazardous materials. In addition, any hazardous waste generated on site during construction would be disposed of at a licensed treatment or disposal facility by a licensed and permitted hazardous waste hauler. Implementation of MM HAZ-1 as described in Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* and provided below, will further reduce the potential for hazardous material spills or leaks for the purposes of worker safety, to protect against soil and groundwater contamination, and ensure proper disposal of hazardous materials, therefore the impact would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with the potential to create a hazard through routine transport, use, or disposal of hazardous materials. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM HAZ-1 **Hazardous Materials Training and Management Plan.** Prior to approval of final construction plans, a Project-specific Hazardous Materials Training and Management Plan shall be prepared for the construction phase of the Project to ensure that accidental spills, leaks, or mishandling of hazardous materials does not result in contamination of soil or water. The plan is subject to CSLC approval, and shall include the following information related to hazardous materials, as applicable:

- Hazardous Material Storage and Disposal Procedures. A list of the hazardous materials that will be present onsite during construction, including Material Safety Data Sheets (MSDSs) and other information regarding their storage, use, and transportation requirements. A description of the waste management and disposal procedures for any hazardous materials that will be used or generated during construction. Hazardous materials shall not be stored near drainages or waterways.
- Training. The plan shall also include procedures for training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of construction. This would include training on hazardous material protocols and best management practices (BMPs). All project personnel shall be provided with project-specific training to ensure that all hazardous materials and wastes

associated with the project are handled in a safe and environmentally sound manner and disposed of according to applicable rules and regulations.

- Emergency Release Response Procedures. The Plan shall include emergency response procedures in the event of a release of hazardous materials. The Plan must prescribe hazardous materials handling procedures for reducing the potential for a spill during construction and would include an emergency response program to ensure quick and safe cleanup of accidental spills. A list of spill response materials and the locations of such materials at the Project site during construction shall be included. All construction personnel, including environmental monitors, would be made aware of state and federal emergency response reporting guidelines for accidental spills.
- Fueling and Maintenance of Construction Equipment. Written procedures for fueling and maintenance of construction equipment shall be included in the Plan. Refueling and maintenance procedures may require vehicles and equipment to be refueled on site or by tanker trucks. Procedures will require the use of drop cloths made of plastic, drip pans and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Equipment would be inspected daily for potential leakage or failures. Fueling shall not take place within 200 feet of drainages or waterways with flowing water or within 75 feet of drainages or waterways that are dry.

The Hazardous Material Training and Management Plan shall be submitted to the CSLC 60 days prior to the start of construction for review, comment, and approval.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HAZ-1 as described in Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with the proposed Calcite Substation involving the routine transport, use, or disposal of hazardous materials would be reduced to a less than significant level.

Impact 3.9-2 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?

SIENNA PROJECT

Construction - Less than Significant Impact. Project construction would involve the transportation, use, storage, and disposal of hazardous materials such as fuels, asphalt, lubricants, toxic solvents, graphite, electrolyte, and common herbicides and pesticides. However, 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 and the environment. 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.

The Phase I ESA prepared for the Sienna Project 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 Sienna 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 discussed in Section 3.9.1 above, the Phase I ESA (Appendix I of this EIR) prepared for the Sienna Project did not identify any RECs associated with the Sienna Project site.

Based on the evaluation above, with adherence to state and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials, the Sienna Project would not 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. Impacts are considered less than significant.

Operation - Less than Significant Impact. Project operations would consist of limited hazardous materials on the site. As discussed in Impact 3.9-1 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 Sienna 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 Sienna 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) involving: 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 Sienna 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 Sienna 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 Sienna 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 Sienna 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 - Less than Significant Impact. As stated under Impact 3.9-1, the Project Applicant will work with the County to ensure decommissioning of the Sienna Project after its productive lifetime complies with all applicable local, State, and federal requirements. The Sienna 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 Sienna 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.

CALCITE SUBSTATION

Less than Significant Impact with Mitigation Incorporated. According to Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), unanticipated soil contamination could exist at the proposed Calcite Substation site and access road due to illegal dumping or other historical activities (e.g., mining, military training activities). Due to the isolated nature of the area and availability of remote access roads, there is a potential that unknown dumping of trash and other materials may have occurred within the Calcite Substation site or in the vicinity. Other possible types of contamination include heavy metals and/or other hazardous materials (California State Lands Commission 2021).

There is a potential that aerially deposited lead (ADL) contaminated soils may occur within the Calcite Substation site where it is traversed by SR-247. While the Applicant's SWPPP and SPCC Plan would partly address the excavation, handling, and disposal of contaminated soil, additional mitigation is necessary to fully protect workers and the public from unanticipated soil contamination. Environmentally contaminated soil could be improperly identified, handled, and disposed of, resulting in additional environmental contamination or exposure of workers to contaminated materials. The potential impacts at the Calcite Substation site related to encountering unanticipated contaminated soil would be reduced through the implementation of MM HAZ-3a and MM HAZ-3b (California State

Lands Commission 2021) as described in Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* and provided below.

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with the potential to release hazardous materials into the environment. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM HAZ-3a **Aerially Deposited Lead Testing Program.** Prior to Project construction, an ADL soil testing program will be prepared and conducted to determine the presence and extent of ADL contaminated soils along and adjacent to Lucerne Valley Cutoff and SR-247 in areas where Project-related ground disturbance would occur. If ADL contaminated soil is identified, the Applicant shall coordinate with DTSC to determine appropriate handling, treatment, and disposal of any ADL contaminated soil.

The ADL Testing Program shall be submitted to the CSLC and Hazardous Materials Division of the San Bernardino County Fire Department 60 days prior to the start of construction for review, comment, and approval.

MM HAZ-3b **Soil and Groundwater Management Plan.** The Applicant shall prepare a Soil and Groundwater Management Plan that outlines how Proposed Project construction crews would identify, handle, and dispose of previously unidentified potentially contaminated soil and groundwater. Due to the potential for unknown contamination, the plan shall include the following requirements:

- Identify the anticipated field screening methods and appropriate regulatory limits to be applied to determine proper handling and disposal of excavated soil spoils
- Any suspect soil already excavated shall be segregated, and work will stop in the subject area until sampling and testing is done to determine appropriate treatment and disposal
- Although dewatering during construction is unlikely, any water produced by dewatering shall be tested prior to disposal, which would be in accordance with all applicable regulations
- Include requirements for documenting and reporting incidents of encountered contaminants, such as documenting locations of occurrence, sampling results, and reporting actions taken to dispose of contaminated materials. The Applicant shall immediately notify the Hazardous Materials Division of the San Bernardino County Fire Department and the CSLC in the event of encountering contaminated soil or groundwater. A weekly report listing encounters with

contaminated soils and describing actions taken shall be submitted to the CSLC and the County Fire Department.

The Soil and Groundwater Management Plan shall be submitted to the CSLC and Hazardous Materials Division of the San Bernardino County Fire Department 60 days prior to the start of construction for review, comment, and approval.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HAZ-3a and MM HAZ-3b as described in Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with the Calcite Substation with respect to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be reduced to a less than significant level.

Impact 3.9-3 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?

SIENNA PROJECT

No Impact. The Sienna Project site is not located within 0.25 mile of an existing or proposed school. The nearest school is Lucerne Valley Middle/High School located at 33233 Rabbit Springs Road approximately 2.50 miles to the southwest of the Sienna Project site. The Sienna 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 Sienna Project would be required to adhere to all applicable federal, State and local regulations regarding transport, use, storage, and the disposal of hazardous materials. As the Sienna Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, no impacts would occur.

CALCITE SUBSTATION

No Impact. According to Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation site is not located within 0.25 mile of an existing or proposed school. As the Calcite Substation would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, no impacts would occur (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with emitting hazardous emissions within 0.25 mile of an existing school. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

No impact would occur. No mitigation measures are required.

CALCITE SUSBTATION

No impact would occur. No mitigation measures are required.

Impact 3.9-4 Would the Project be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

SIENNA PROJECT

Less than Significant Impact. As discussed in Section 3.9.1, a review of the EDR database report and supplemental records from federal and State regulatory databases identified hazardous materials sites within the Sienna Project site and immediate vicinity. However, the Phase I ESA prepared for the Sienna Project did not identify any RECs associated with these sites in relation to Project construction and operation. Impacts are considered less than significant.

CALCITE SUBSTATION

No Impact. As discussed in Section 3.9.1,the Calcite Substation site was not listed on hazardous materials site per the environmental database search report generated by EDR. Therefore, no impact would occur.

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with being located on a hazardous materials site. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUSBTATION

No impact would occur. No mitigation measures are required.

Impact 3.9-5 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?

SIENNA PROJECT

No Impact. The Sienna Project site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Sienna Project site is the Holiday Ranch Airport, a privately-owned airport, located approximately 10 miles northwest of the Sienna Project site. The nearest public airports are Apple Valley County Airport and Big Bear City Airport located approximately 15 miles northwest and south of the Sienna Project site, respectively. Therefore, the Sienna Project would not result in a safety hazard or excessive noise for people residing or working in the Project area as a result of its location in proximity to airports. No impact would occur.

CALCITE SUBSTATION

No Impact. The Calcite Substation site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Calcite Substation site is the Holiday Ranch Airport, a privately-owned airport, located approximately 7 miles northwest of the Calcite Substation site. The nearest public airport is the Apple Valley County Airport located approximately 13.50 miles northwest of the Calcite Substation site. Therefore, the Calcite Substation would not result in a safety hazard or excessive noise for people residing or working in the Project area as a result of its location in proximity to airports. No impact would occur.

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated airport hazards. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

No impact would occur. No mitigation measures are required.

CALCITE SUSBTATION

No impact would occur. No mitigation measures are required.

Impact 3.9-6 Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

SIENNA PROJECT

Less than Significant Impact. The Sienna 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. No revisions to the MHFP would be required as a result of the Sienna Project.

The Sienna Project is approximately one mile east of SR 247 (Barstow Road), which is an evacuation route within the County (County of San Bernardino 2020a). Barstow Road would provide primary access to the Sienna Project. Adequate onsite access for emergency vehicles would be verified by the Fire Department during the County's plan review process. During construction, the contractor would be required to maintain adequate emergency access for emergency vehicles as required by the County. Furthermore, during Project operation, primary access to all major roads would be maintained and would not interfere with emergency access into or out of the Sienna Project site. Therefore, the Sienna Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts are considered less than significant.

CALCITE SUSBTATION

Significant and Unavoidable Impact. According to Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction of the proposed Calcite Substation would occur within the site and would not directly encroach within any public roadway or access route utilized during emergency vehicle response. However, construction would introduce a high volume of daily trips when combined with the Stagecoach Solar Generation Plant components, some of which may be oversize vehicles. The addition of these trips on rural segments of SR-18 and SR-247 is anticipated to reduce the speeds and responses times of emergency vehicles travelling along the affected roadways during construction hours. MM TRA-1, as described in Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR* and below, would require the applicant to prepare a Construction Traffic Control Plan to be reviewed by Caltrans and San Bernardino County and requires the applicant to provide plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles (California State Lands Commission 2021).

However, even with the implementation of MM TRA-1, as described in Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR* and below, construction of the Calcite Substation is considered to have a significant and unavoidable impact when combined with the 18-month construction period of the Stagecoach Solar Generation Plant components. This is because the significant increase in construction trips, even when mitigated, would substantially affect emergency vehicle movements along the affected rural roadway network.

The *Stagecoach Solar Project Draft EIR* identified a significant and unavoidable impact associated with the potential to impair implementation of an adopted emergency response plan. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. However, as described in the analysis above, even with implementation of mitigation, the amount of construction-

related trips would affect emergency vehicle movement. This impact would be significant and unavoidable. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUSBTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM TRA-1 **Construction Traffic Control Plan.** Prior to the start of construction, the Applicant shall submit a Construction Traffic Control Plan (CTCP) for review and approval by the CSLC, Caltrans, and San Bernardino County. The CTCP shall address all roads that would be directly affected by the construction activities or would require permits and approvals. The CTCP shall include consideration of the specific contents defined below, as applicable to each component of the Proposed Project. The components defined herein may be modified based on agency consultation and on the final construction schedule and staffing levels. The Applicant shall:

- Provide written notification to all property owners and tenants at properties affected by access restrictions to inform them about the timing and duration of obstructions and to arrange for alternative access if necessary. Initial notification defining the start of construction and the anticipated length of construction shall be included in the public notices defined in MM NOI-1b (Public Notification Process). Additional notices shall be provided if conditions or schedules change, at least one week prior to any change or road closures.
- Stagger shifts for construction workers to spread associated traffic over longer times in the morning and evening to improve traffic flow and safety challenges resulting from all workers having the same starting and ending times.
- Restrict non-worker construction trips, to the maximum extent feasible, to outside 4 the hours of 7:00-9:00 a.m. and 4:00-6:00 p.m. to increase safety and traffic flow through Apple Valley and Lucerne Valley during peak construction commuter hours.
- Coordinate with the Cities of Victorville, Apple Valley, and Barstow to identify locations for park-and-ride carpooling lots within their communities and establish project-supported buses or vanpools from these locations. The purpose of this measure is to increase safety and maintain traffic flow by decreasing the number of trips on rural roadway segments that have low baseline traffic volumes.
- Use flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc., at key locations according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices (FHWA 2021), the Standard Specifications for Public Works Construction (SFPUC 2021), and/or the California Manual on Uniform Traffic Control (Caltrans 2021) to ensure safe site ingress/egress and use of public roadways.

- Implement a public outreach campaign (signage, direct mail, website, recorded telephone update line, newspaper notices, etc.) to notify the public of construction traffic routes and construction duration.
- Install signage placed along the east and west shoulders of SR-247 at Sunset Road, Sunrise Road, and Rabbit Springs Road in the vicinity of Lucerne Valley Elementary School and Lucerne Valley Middle/High School notifying drivers of the school entrance and school traffic. Develop other provisions to ensure safe crossings of SR-247 by students at Lucerne Valley Elementary School and Lucerne Valley Middle/High School during peak Project commute hours and months.
- Submit to the CSLC, Caltrans, the CHP, and San Bernardino County a description of required oversize vehicles anticipated, permits from Caltrans, and means to follow all safety requirements such as flaggers, flashing lights, and/or the use of continuous traffic breaks operated by the CHP on state highways (if necessary).
- Develop plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Notify police departments and fire departments that serve the affected area in advance of the proposed locations, nature, timing, and duration of any roadway disruptions, areas of likely congestion, and access restrictions that could impact their effectiveness. At locations where roads will be blocked or constrained, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies.
- Develop and implement a method for maintaining close coordination with San Bernardino County and other federal and local agencies responsible for approving major projects that may include significant traffic volumes on shared segments of regional and local roadways where the majority of Project-related trips would occur. This coordination would allow Lead Agencies to consider staggering project construction timeframes to minimize the potential for multiple simultaneous construction projects affecting shared portions of the circulation system.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUSBTATION

With the implementation of MM TRA-1 as described in Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR,* impacts to the movement of emergency service vehicles during construction would be reduced, but would remain significant and unavoidable. Residual impacts would cease upon completion of construction.

Impact 3.9-7 Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

SIENNA PROJECT

Less than Significant Impact. Based upon the display in the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the Sienna Project is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2022). The Sienna Project site is located within a Moderate Fire Hazard Severity Zone (County of San Bernardino 2020a). In addition, the Sienna Project is located within a Fire Safety Overlay. As such, the risk of wildfire hazards at the Sienna Project site does exist.

The Sienna Project includes installation of BESS. Given continuing rapid technological change in the battery industry, the BESS component manufacturer for the Sienna 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 Sienna 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 deflagations systems and suppression or thermal runaway systems. Over the long term, Sienna 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 Sienna Project will comply with the San Bernardino

County Fire Department vegetation clearance requirements. Sienna 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 Sienna 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 Sienna Project, including the BESS.

The Sienna 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 Sienna Project site. In addition, the Sienna 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 Sienna Project and would minimize the occurrences of fire due to project activities during construction and for the life of the Sienna Project. Coupled with the implementation of fire suppression technology and adherence with applicable industry best practices and regulatory fire standards, the Sienna 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.

CALCITE SUSBTATION

Construction - Less than Significant with Mitigation Incorporated. According to Section 4.18, Wildfire, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), although the proposed Calcite Substation would not be located in a very high or high fire hazard severity zone, there are residents in the vicinity of the Calcite Substation that may be exposed to increased wildfire hazards associated with construction. However, the risk of construction activities creating exposure of people or structures to wildland fires would be very low, given the lack of substantial vegetation and relatively flat topography as well as implementation of the Fire Management and Prevention Plan (FMPP), as described in MM WIL-1 of the *Stagecoach Solar Project Draft EIR* and below. Construction impacts would be less than significant with implementation of MM WIL-1 of the *Stagecoach Solar Project Draft EIR* (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential to expose people or structures to wildland fires during construction. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Operation - Less than Significant with Mitigation Incorporated. The Calcite Substation is subject to CPUC oversight and under the jurisdiction of the Federal Energy Regulatory Commission. Regular maintenance of the Calcite Substation would ensure all components work properly. Because operation and maintenance activities must occur in compliance with federal and state-mandated safety

standards and these protocols are designed reduce the likelihood of wildland fires, the likelihood of fire hazards associated with electrical failure would be extremely low. With implementation of MM WIL-1, as described in Section 4.18, Wildfire, of the *Stagecoach Solar Project Draft EIR* and below, the operation and maintenance of the Calcite Substation would have a less than significant impact on exposing people or structures to wildland fire hazards (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential to expose people or structures to wildland fires during operation. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUSBTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM WIL-1 **Expand Fire Prevention and Management Plan.** The Applicant (for the Stagecoach Facilities) and SCE (for SCE Calcite Facilities) shall expand their respective FMPPs to include additional standards for review and approval by the SBCFD, CSLC, and CPUC (for SCE Calcite Facilities) prior to initiation of construction. The draft Plan shall be provided to each listed agency at least 60 days before the start of any construction activities. The final Plan shall be approved by the CSLC, the CPUC, and SBCFD at least 30 days prior to the initiation of construction activities. The Applicant and SCE shall fully implement the Plan during construction, operation, and decommissioning activities.

The expanded FMPP shall include, but not be limited, to the following elements:

- Safety and design elements and standards, including, but not limited to: Signage near the entrance of the BESS stating that the enclosure contains energized battery systems, electrical circuits, and type of batteries; continuous monitoring of the temperature and temperature control systems within the BESS enclosure; use of certified battery cells, and; regular inspections of fire suppression equipment. Combustible materials shall not be stored inside or within 10 feet of the BESS enclosures.
- Coordination with the local water supplier to ensure a sufficient on-site water supply.
- Design shall ensure appropriate water pressure, equipment, and facilities for firefighting.
- A fire suppression system shall be required, and fire suppression equipment shall be available to workers during construction, operation, and decommissioning.
- An adequate number of Knox Boxes (or equivalent key boxes for emergency access) shall be available at main secured access areas to allow for rapid access for first responders.

- Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, and hot work restrictions.
- Daily monitoring of weather conditions and implementing work restrictions during Red Flag Warnings and High to Extreme Fire Danger days.
- All internal combustion engines used at the Project site shall be equipped with spark arrestors that are maintained in good working order.
- Once initial two-track roads have been cut and initial fencing completed, light trucks and cars shall be used only on roads where the roadway is cleared of vegetation. Mufflers on all cars and light trucks shall be maintained in good working order.
- Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
- Equipment parking areas and small stationary engine sites shall be cleared of all flammable materials.
- Fire suppression equipment requirements when spark-generating work is being implemented.
- Smoking shall be prohibited in all vegetated areas and within 50 feet of combustible materials storage and shall be limited to paved areas or areas cleared of all vegetation.
- Each Project construction site (including gen-tie construction locations) and the proposed solar generation plant site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires.
- The Applicant shall coordinate with the SBCFD to create a training component for emergency first responders to prepare for specialized emergency incidents (such as a fire at the BESS) that may occur at the Project site
- All construction workers, plant personnel, and maintenance workers visiting the facilities and/or transmission lines to perform maintenance activities shall receive training on fire prevention procedures; the proper use of fire-fighting equipment; the proper handling, storage, and disposal of flammable materials; initial attack firefighting; and fire reporting. Each worker shall carry at all times a laminated card listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on contact cards shall be updated and redistributed to all crewmembers as needed, and outdated cards destroyed, prior to the initiation of construction activities on the day the information change goes into effect. Training records shall be maintained and be available for review by the SBCFD.
- Vegetation near all solar panel arrays, ancillary equipment, and access roads shall be controlled through periodic cutting or spraying of weeds, in accordance with the requirements of MM BIO-1d (Weed Management) [as described in the *Stagecoach Solar Project Draft EIR*].

- The SBCFD shall be consulted during plan preparation and fire safety measures recommended by these agencies included in the plan.
- The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations.
- All on-site employees shall participate in annual fire prevention and response training exercises with the SBCFD.
- The plan shall list all applicable wildland fire management plans and policies established by state and local agencies and demonstrate how the Project will comply with these requirements.
- The Applicant shall designate an emergency services coordinator from among the full-time, on-site employees who shall perform routine patrols of the site during the most active period of the fire season (defined as June 1 to October 31), equipped with a portable fire extinguisher and communications equipment. The Applicant shall notify the SBCFD of the name and contact information of the current emergency services coordinator in the event of any change.
- Remote monitoring of all major electrical equipment (transformers and inverters) will screen for unusual operating conditions. Higher than nominal temperatures, for example, can be compared with other operational factors to indicate the potential for overheating, which under certain conditions could precipitate a fire. Units could then be shut down or generation curtailed remotely until corrective actions are taken.
- Fires igniting onsite shall be immediately reported to the SBCFD.
- The Applicant shall develop a project-specific O&M guide, incorporating the relevant CAL FIRE principles from the 2021 California Power Line Fire Prevention Field Guide (CAL FIRE 2021), specifically to govern the O&M procedures to be implemented for the Stagecoach Gen-tie Line.

The engineering, procurement, and construction contract(s) for the Project shall clearly state the requirements of this mitigation measure. The Plan shall include methods for verification that all protocols and requirements are being followed.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUSBTATION

With implementation of MM WIL-1, as described in Section 4.18, Wildfire, of the *Stagecoach Solar Project Draft EIR*, the proposed Calcite Substation would have a less than significant impact on exposing people or structures to wildland fire hazards.

This page is intentionally blank.

3.10 Hydrology/Water Quality

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the Project in relation to hydrology and water quality, and mitigation measures where applicable. The impact assessment provides an evaluation of potential effects to water quality based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. Information contained in this section is summarized from the Project-specific *Hydrology Study* prepared by Westwood Professional Services (Appendix J of this EIR), the *Water Supply Assessment* (WSA) prepared by Rincon Consultants, Inc. (Appendix M of this EIR), and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.10.1 Existing Conditions

Existing Hydrology

Regional Hydrology and Drainage

The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. It is bounded for forty miles on the northeast by the State of Nevada, on the north by the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain ranges, on the west by the San Bernardino, San Jacinto, and Laguna Mountain ranges, on the south by the Republic of Mexico, and on the east by the Colorado River and State of Arizona (California Regional Water Quality Control Board 2019).

For planning and reporting purposes, the Colorado River Basin Region has been divided into seven major planning areas on the basis of different economic and hydrologic characteristics. The Sienna Project site is located in the Lucerne Valley planning area.

The Lucerne Valley planning area comprises many small internal drainage basins which cover 6,500 square miles, approximately the northern third of the West Basin. In the upper desert, which contains Lucerne Valley, Yucca Valley, Joshua Tree, and Twentynine Palms, precipitation is higher, and frost often occurs. The San Bernardino Mountains on the northwest have the highest peaks in the planning area, with elevations exceeding 7,000 feet (California Regional Water Quality Control Board 2019).

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. Mean annual precipitation ranges from 16 inches in the San Bernardino Mountains to less than three inches in the Bristol Lake (dry) area. The average annual rainfall over the entire planning area is five inches. Little of the rainwater percolates into the ground water table and most is lost by evaporation and by evapotranspiration (California Regional Water Quality Control Board 2019).

The Sienna Project site is located within the central portion of the Lucerne Lake watershed, Hydrologic Unit Code (HUC) 181001000404. This drainage basin covers approximately 106,329 acres (430.30 square miles) and is a closed basin which requires that all water entering the basin does not exit the basin by surface flows (California Regional Water Quality Control Board 2022).

Ground Water Hydrology

Ground water is stored principally in the unconsolidated alluvium. Except for areas near some of the dry lakes, ground water is unconfined. The depth of the water bearing deposits is not known, but the basins have accumulated hundreds of feet of sediments (e.g. 1,200 feet of sediments have been measured in the Dale Hydrologic Subunit).

Wells yield from a few gallons-per-minute (gpm) to 3,000 gpm. In 1970, depth to ground water ranged from flow at the surface to 445 feet in the Copper Mountain hydrologic unit.

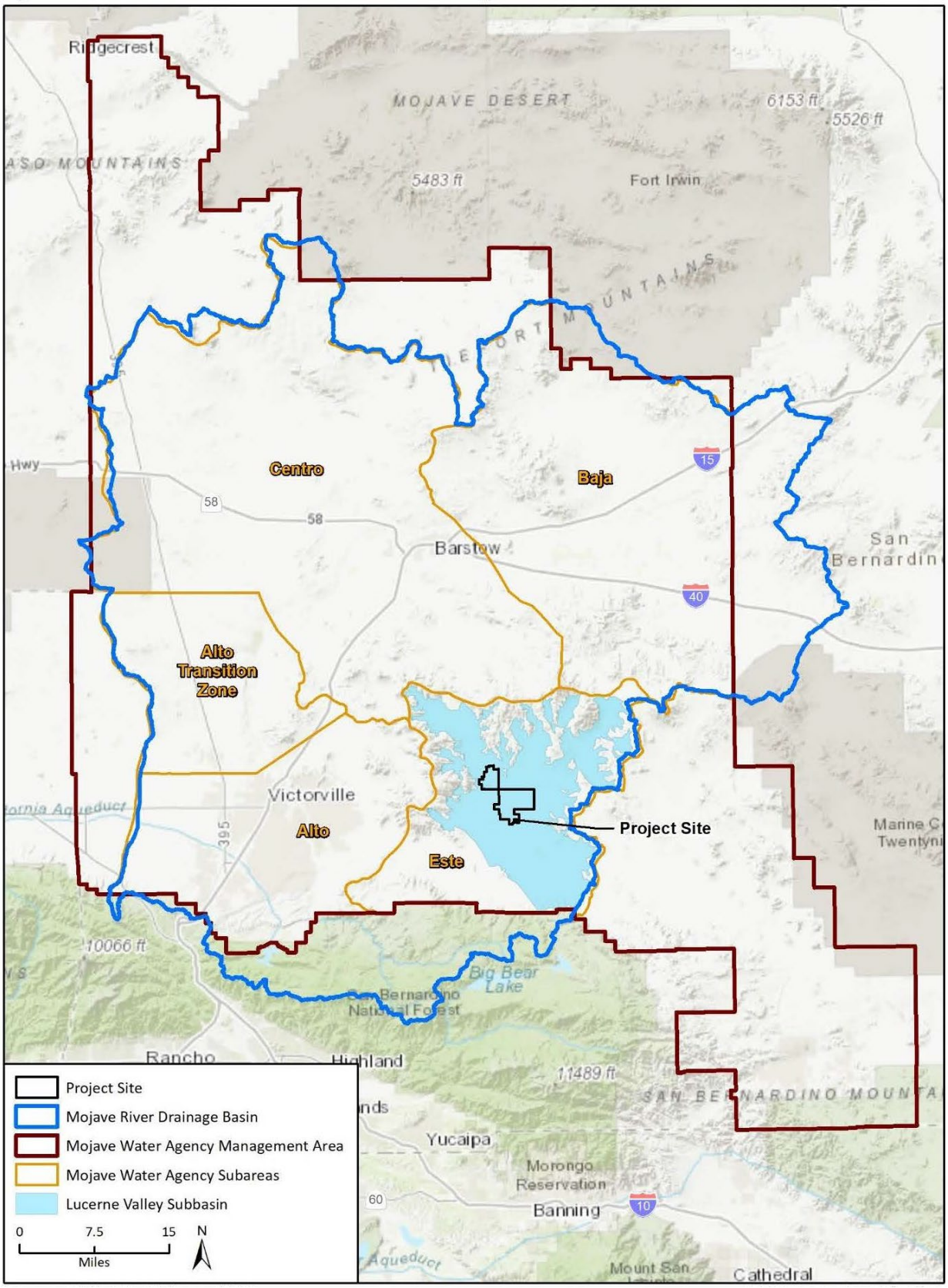
There may be some flow (less than an average 100 acre-feet per year) from the Lucerne Hydrologic unit into the Upper Mojave River Hydrologic Subunit in the South Lahontan Basin. There is also an undetermined amount of outflow from the Cadiz Hydrologic Unit into the Palen Hydrologic Subunit of the Hayfield Planning Area.

Ground water flow follows the general gradient of the land surface except in areas of heavy extraction and where subsurface flow may be affected by faults. The Baseline Fault along the south side of Twentynine Palms Valley causes a long linear zone of rising water covered by dense vegetation, which includes the Twentynine Palms Oasis. Another fault, the Mesquite Dry Lake Fault, intersects the Baseline Fault four miles east of Twentynine Palms and impedes ground water movement locally, causing a higher water table on the southwest side of the fault. Other faults have less effect on the hydrology, but may be responsible for high fluoride in the water and for high water temperatures (California Regional Water Quality Control Board 2019).

MOJAVE BASIN AREA

The Sienna Project overlies the Lucerne Valley Subbasin of the Este (East) Subarea within the Mojave Basin Area, which is managed by the Mojave Water Agency (MWA). Figure 3.10-1 shows the boundaries of the Mojave River Drainage Basin; this area refers to the surface drainage area associated with the Mojave River, which is interrelated with the underlying groundwater resources.

Figure 3.10-1. Groundwater Resources and Management Area



Source: Appendix M of this EIR

The MWA service area overlies all or a portion of 36 groundwater basins and subbasins, covering approximately 4,900 square miles. Collectively, these basins and subbasins are broadly grouped into two larger hydrogeologic distinct areas: The South Lahontan Hydrologic Region and the Colorado River Hydrologic Region. Groundwater basins along the Mojave River and adjacent areas are referred to as the Mojave River Groundwater Basin and are commonly referred to as the Mojave Basin Area. Remaining basins in the southeastern Mojave Region are generally referred to as the Morongo Basin/Johnson Valley Area or "Morongo Area," with the exception of the Lucerne Valley. The Lucerne Valley subbasin is divided along the Helendale Fault with the southwest portion in the Mojave River Groundwater Basin and the northeast portion in the Morongo Area. Surface water drainage of Lucerne Valley is in the Colorado River Hydrologic Region but is not included in with the "Morongo Basin Area" due to the hydrogeologic conditions (Appendix M of this EIR).

The Mojave River is the largest river in the Mojave Basin Area, formed by the confluence of the West Fork of the Mojave River and Deep Creek. These streams originate in the northwestern San Bernardino Mountains. The Mojave Basin Area is essentially a closed basin meaning that very limited amounts of groundwater enter or exit the basin. However, within the basin, groundwater movement occurs between the different subareas, as well as groundwater-surface water and groundwater-atmosphere interchanges. Groundwater is recharged into the basin predominantly by infiltration of stormflow runoff water from the San Bernardino Mountains into the Mojave River. Other sources of recharge include infiltration of storm runoff into small streams and desert washes, and other activities such as irrigation return flows, wastewater discharge, and enhanced recharge with imported water (Appendix M of this EIR).

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.

LUCERNE VALLEY SUBBASIN

The Lucerne Valley Subbasin underlies a large portion of the Este Subarea of the Mojave Basin Area and covers approximately 230 square miles in the northwest part of the Colorado River Hydrologic Region. The basin is bounded on the south by the San Bernardino Mountains and on the west by the Granite Mountains and the Helendale fault. The Ord Mountains bound the basin on the north. The Camp Rock fault and Kane Wash Area Groundwater Basin bound this basin on the east and the Fry Mountains bound this basin on the southeast. Surface water drains toward Lucerne Dry Lake in the western portion of the basin, which has an altitude of 2,850 feet above sea level (Appendix M of this EIR).

The principal water-bearing deposits in the Lucerne Valley Subbasin are Quaternary age alluvium, and dune sand. The deposits are unconsolidated or semi-consolidated and the alluvium is composed of gravel, sand, silt, clay, and occasional boulders. Where saturated, the alluvium yields water freely to wells. Irrigation wells in the basin yield as much as 1,000 gallons per minute (gpm). Thickness of the alluvial deposits varies throughout the basin and reaches at least 1,800 feet along the Helendale fault. Water well and oil well logs indicate that the thickness of the alluvium averages about 600 feet. Fine-grained playa deposits in the western part of the basin yield little water to wells and the water is usually of poor quality. In the western part of the basin, between Lucerne Lake and Helendale faults, a thick layer of playa deposits separates the groundwater system into an upper unconfined aquifer and a lower, confined aquifer. Throughout the rest of the basin, groundwater is unconfined, meaning that it moves between subsurface layers without restriction. The basin is principally recharged by runoff from the San Bernardino Mountains and secondarily by runoff from the Granite, Ord, and Fry

Mountains to the north. Groundwater generally flows from areas of recharge (infiltration from the surface) toward Lucerne Lake (Appendix M of this EIR).

Existing Site Drainage

The majority of the Sienna Project site is mostly level and slope gradients across the site are extremely low. Thirty-nine (39) small, shallow, ephemeral streams drain generally to the west and southwest in the direction of the Lucerne Dry Lake. The streams convey water flows only during and immediately after high precipitation events. Hydromodification, primarily from roads, has fragmented stream flow in areas north and west of the dry lakebed. Road maintenance activities include clearing and blading, which create large soil berms on each side of the roads, blocking flow in most of the drainages at the road edge. Additionally, OHV tracks interrupt the flow of small shallow channels (Appendix E of this EIR).

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.

The Sienna Project site is within the jurisdiction of the Colorado River Basin Regional Water Quality Control Board (RWQCB). None of the watercourses within the Sienna Project site are listed by the RWQCB as impaired under Section 303(d) of the CWA. The nearest CWA section 303(d) impaired water body is the Mojave River, approximately 18 miles west of the Sienna Project site. There is no natural surface water connection between the Sienna Project components and the Mojave River.

Ground Water Quality

Numerous studies dating back to the early 1900s have been conducted by various agencies to characterize groundwater quality in the Mojave service area and further the understanding of the Mojave River and Morongo Groundwater Basins. The MWA has also established a program with the USGS to maintain an 850-well monitoring network, from which groundwater quality is regularly sampled, analyzed, and recorded. In addition, the Mojave Salt and Nutrient Management Plan (SNMP) was completed in 2015. The results of these studies generally confirm the suitability of groundwater for beneficial uses in the Region. Investigations have also been conducted to identify the source and occurrence of key naturally occurring groundwater contaminants, including hexavalent chromium and arsenic, in the Mojave Desert region (Appendix M of this EIR).

The impairment of groundwater from the perspective of its beneficial use as drinking water is determined by comparing concentrations of constituents of concern in the groundwater against drinking water maximum contaminant levels (MCLs) and agricultural water quality parameters needed for specific crops. Key groundwater constituents of concern in the MWA service area include arsenic, nitrates, iron, manganese, Cr-VI, fluoride, and total dissolved solids (TDS), primarily comprised of salts (nitrates). Measurements exceeding drinking water standards have been found for some of these constituents within the Mojave River Basin and the Morongo Basin. Groundwater in these areas may require treatment prior to consumption (Appendix M of this EIR).

Water quality in the Lucerne Valley Subbasin is characterized by calcium-magnesium bicarbonate, calcium bicarbonate, and magnesium-sodium sulfate. These constituents result in the groundwater typically containing high concentrations of TDS, particularly in areas near Lucerne Dry Lake, including the Sienna Project area, where the groundwater is sodium chloride in character and has very high TDS concentrations. The concentration of TDS in groundwater tends to increase in the direction of groundwater flow, which is generally towards the dry lakebed, because as water is withdrawn or evaporates the overall salinity of the remaining water increases. The USGS and MWA maintain an extensive network of wells throughout the Mojave Basin Area to monitor water quality parameters. Monitoring wells in the vicinity of the Sienna Project show the highest recorded values of TDS throughout MWA's jurisdiction. For example, the MCL for TDS set by the USEPA for drinking water is 500 milligrams per liter (mg/L), while untreated groundwater in the vicinity of the Lucerne Dry Lake has measured as high as 19,200 mg/L (Appendix M of this EIR).

Groundwater Management

The Mojave Basin Area is adjudicated and is managed by MWA in its role as Watermaster. Adjudicated groundwater basins are not required to be managed under a Groundwater Sustainability Plan (GSP) for compliance with the Sustainable Groundwater Management Act (SGMA), because implementation of the Adjudication Judgement by the designated Watermaster serves the same purpose towards achieving and maintaining groundwater sustainability as would occur under a GSP. For those basins that are not adjudicated, SGMA establishes a framework for local groundwater management and requires local agencies to bring over-drafted basins into balanced levels of pumping and recharge. The DWR uses the California Statewide Groundwater Elevation Model (CASGEM) Priority List to rank groundwater basins across the state according to priority levels of High, Medium, Low, or Very Low, and SGMA specifies deadlines for completion of GSPs in order of basin priority. Currently, deadlines are only applicable to High- and Medium-Priority basins, and all subbasins within the Mojave Basin Area, including Lucerne Valley Subbasin, are designated by the DWR as Very Low Priority (Appendix M of this EIR).

Sienna Project

Groundwater local to the Sienna Project area is contained within an area managed by an Adjudication Judgement. As such, each property owner and water user within the Adjudication Area has an allocated amount of groundwater that is allowed to be produced from respective parcels in any given year, subject to the management direction of the MWA.

Calcite Substation

The Calcite Substation site is within the northern portion of the Lucerne Valley groundwater basin (LVGB) in North Lucerne Valley. Under SGMA, the LVGB has been assigned a very low basin priority (California State Lands Commission 2021).

Flooding

Sienna Project

According to FEMA Flood Insurance Rate Map (Panels 06071C6575H and 06071C5900H) (FEMA 2008), the Sienna Project site is entirely within Zone D, which is defined as "undetermined Flood Hazard" per the Flood Insurance Rate Map. 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.

Calcite Substation

According to Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), FEMA flood insurance rate maps have not been prepared for the Calcite Substation site or surrounding lands and the site is not within a federally mapped floodplain. However, the Calcite Substation area is subject to occasional flooding due mainly to the presence of desert washes. Flow depths are likely shallow due to the flat terrain and lack of definition for the washes. Additionally, runoff is activated by rainfall only, and typical of desert washes, rainfall is of short duration (California State Lands Commission 2021).

3.10.2 Regulatory Setting

This section identifies and summarizes federal, State, and local laws, policies, and regulations that are applicable to the Project.

Federal

Clean Water Act

The U.S. EPA is the lead federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the Project are discussed below. Wetland protection elements administered by the United States Army Corps of Engineers (USACE) under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Section 3.5, Biological Resources.

Under federal law, the U.S. EPA has published water quality regulations under Volume 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S. EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S. EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the State Water Resources Control Board (SWRCB) in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

CWA Section 402 establishes the National Pollution Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities, if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The U.S. EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for discharges from certain activities. At the local and regional levels, general and individual permits are administered by Regional Water Quality Control Boards (RWQCBs).

Clean Water Act Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still be in compliance with applicable water quality objectives and applied beneficial uses. The TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

National Flood Insurance Program

The FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues FIRM maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRM is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability (i.e., the 100-year flood event).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act (SGMA) of 2014 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.

National Pollution Discharge Elimination System Permits

As authorized by CWA Section 402(p), the National Pollutant Discharge Elimination System Permit (NPDES) program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The SWRCB issues NPDES permits to cities and counties through the RWQCBs. It is the responsibility of the RWQCBs to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements. Waste discharge requirements for discharges to surface waters also serve as NPDES permits.

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds 1 acre. Coverage under a General Construction Permit requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Local

San Bernardino County Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The Sienna Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Relevant policies applicable to the Project are as follows:

INFRASTRUCTURE AND UTILTIES 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 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

Policy RE-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.

Mojave Water Agency

The MWA serves as the Watermaster for the entire Mojave Basin Area, including the Lucerne Valley Subbasin which underlies the Sienna Project area. For management purposes, the Mojave Basin Area is divided into five Subareas. The MWA does not sell water directly to consumers. Rather, in its role as Watermaster, it regulates the groundwater supplies in the Mojave Basin Area, sets Free Production Allowance (FPA) limits for each owner of Base Annual Production (BAP) rights, and manages the purchase and import of Replacement Water and the storage of groundwater supplies for future use during dry years. BAP refers to the water rights associated with landowners that historically produced more than 10 AFY from the basin, while FPA refers to the annually variable percentage of its BAP that each non-minimal (more than 10 AFY) producer is allowed to use before it is required to purchase Replacement Water. These requirements are in place for compliance with the Adjudication Judgement, as administered by MWA as Watermaster.

The MWA uses water from several sources to manage recharge groundwater within its management jurisdiction, including:

- imported water from the State Water Project;
- reclaimed wastewater imports from treatment facilities outside the MWA service area, including facilities in Victorville, Big Bear, Crestline, and Lake Arrowhead; and,
- 'Return Flow' water, or water flowing back into the Basin's groundwater after being discharged by industrial and wastewater facilities, runoff from irrigation, percolating septic system outflows, and stormwater discharges.

Stipulated Judgement (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. The Mojave Basin Area consists of five distinct but hydrologically interrelated "Subareas."

To maintain proper water balances within each Subarea, the Judgment establishes a decreasing 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.

Producers who use less than their FPA can keep a portion of the unused amount as a credit for the next year, referred to as "carryover", which allows the producer to withdraw up to their FPA plus their carryover amount. The FPA for the Este Subarea for 2020 through 2021 was set at 70 percent of BAP, and the FPA for 2021 through 2022 will be set at 65 percent (Mojave Basin Area Watermaster 2021).

Urban Water Management Plan

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 urban water management plans (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 Sienna Project site lies within an adjudicated water basin (Mojave River Drainage Basin and more specifically, the Lucerne Valley Subbasin); therefore, groundwater within the Mojave Basin is actively managed to achieve sustainability.

Colorado River Basin 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 Sienna Project site is covered under the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan).

San Bernardino County Code of Ordinances

TITLE 3, DIVISION 5, MONITORING, CONTROL AND ELIMINATION OF POLLUTANTS INTO THE STORM DRAINAGE SYSTEM

San Bernardino County Code of Ordinances Section 35.01, Pollutant Discharge Elimination System Regulations, was established to protect the health and safety of, and promote the welfare of, the inhabitants of the County by controlling non-storm water discharges to the storm water conveyance system, and by reducing pollutants in storm water discharges, including those pollutants taken up by storm water as it flows over urban areas, to the maximum extent practicable in order to achieve applicable receiving water quality objectives. It was also enacted 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.

TITLE 6, DIVISION 3, BUILDING REGULATIONS, CHAPTER 1, CALIFORNIA BUILDING CODE

San Bernardino County Code of Ordinances Section 63.01, Adoption of California Building Code (CBC), adopts the most recent CBC contained in Part 2 of Title 24 of the California Code of Regulations for the unincorporated area of the County.

3.10.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to hydrology and water quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to hydrology and water quality are considered significant if the Project would:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality; or
- substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or
- 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
    - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite
    - 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
    - impede or redirect flood flows; or
- in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or

- conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Methodology

Impacts related to hydrology and water quality were determined by reviewing information regarding regional and local hydrology, climate, topography, and geology contained in the Policy Plan, MWA 2020 UWMP, FEMA FIRMs, and the Hydrology Study (Appendix J of this EIR) and the WSA (Appendix M of this EIR) prepared for the Sienna Project.

Impact Analysis

Impact 3.10-1 Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality?

SIENNA PROJECT

Construction - Less than Significant Impact. Construction associated with the Sienna Project has the potential to create urban non-point source discharge (e.g., synthetic/organic chemicals). As runoff flows over disturbed surfaces, water can entrain a variety of potential pollutants including, but not limited to, construction oil and grease, pesticides, trace metals, dust, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. This is considered a potentially significant impact. However, because the Sienna Project would disturb at least 1 acre of land during construction, the Sienna Project is subject to the requirements of the SWRCB's General Permit for Discharges of Storm Water Associated with Construction Activity. In accordance with the Construction General Permit, the Sienna Project would be required to develop a construction SWPPP. The SWPPP would describe specific construction BMPs that address pollutant source reduction and provide control measures for sediment and erosion control, non-stormwater management, and materials management. Compliance with the NPDES permit would ensure that a SWPPP is prepared and BMPs are implemented to prevent Project-related pollutants from impacting surface waters. With implementation of these BMPs, the Sienna Project would reduce or eliminate the discharge of pollutants in stormwater runoff from the construction site to the maximum extent practicable.

Additionally, the Sienna Project would comply with San Bernardino County Code Title 3, Division 5, Chapter 1, Pollutant Discharge Elimination System Regulations and with the San Bernardino County Stormwater Program Technical Guidance Document, which 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, construction associated with the Sienna Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts are considered less than significant.

Operation - Less than Significant Impact. As runoff flows over developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. These effects are commonly referred to as non-point source water quality impacts.

However, long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. During operation of the Sienna Project, non-potable water would be

required for panel washing, equipment washing, and other site maintenance. Water is anticipated to be obtained from a participating landowner's water supply or delivered via truck from off-area source(s) if a well cannot be utilized. A small water treatment system may be installed to provide deionized water for panel washing.[1]

Operation of the Sienna 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 Sienna Project operation would be required to be discharged according to all appropriate local, state, and federal laws and regulations. Therefore, operation of the Sienna Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts are considered less than significant. No mitigation is required.

CALCITE SUBSTATION

Construction - Less than Significant with Mitigation Incorporated. According to Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction of the proposed Calcite Substation would involve ground-disturbing activities that could expose soils to erosion and subsequently transport sediments that may potentially enter watercourses during storm events. Construction would also involve the use of hazardous materials that if spilled or otherwise discharged to the ground surface could contaminate surface water or groundwater. Therefore, development of the proposed Calcite Substation would require a SWPPP in compliance with the California General Construction Permit to ensure minimal degradation of water quality resulting from ground-disturbing activities. In addition, hazardous materials would be handled in compliance with relevant laws, ordinances, regulations and standards for the use, storage, and disposal. Implementation of MM HAZ-1 as described in Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* and provided below, would protect against spills of contaminants and ensure appropriate response in the event of a spill. As such, adherence to and compliance with existing water quality regulations, preparation of a SWPPP, and implementation of MM HAZ-1, potential impacts resulting from construction of the Calcite Substation would be reduced to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential violation of water quality standards. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Operation - Less than Significant with Mitigation Incorporated. According to Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), O&M activities associated with the proposed Calcite Substation would involve the use of hazardous materials. Quantities would be small, and activities are expected to be infrequent, and generally in areas within the substation walls (California State Lands Commission 2021). As previously described, hazardous material would be handled and disposed of according to applicable regulations and implementation of MM HAZ-1 as described in Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* and provided below, would reduce impacts to a less than significant level (California State Lands Commission 2021).

[1] The issue of water rights would be addressed between the Applicant, the individual property owners, and the Watermaster, prior to initiation of any water use for the Sienna Project.

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with potential violation of water quality standards. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM HAZ-1 **Hazardous Materials Training and Management Plan** (see Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* and Section 3.9, Hazards and Hazardous Materials, of this EIR)

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HAZ-1, as described in Section 4.9, Hazards and Hazardous Materials of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with water quality would be reduced to a less than significant level.

Impact 3.10-2 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?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project site is not connected to a public water system. Non-potable water used during construction and operation of the Sienna Project would be obtained from locally produced groundwater using an on- or off-site well, or by purchasing treated water from a local purveyor and trucking it to the Sienna Project site.

The Sienna Project overlies the Lucerne Valley Subbasin of the Este (East) Subarea within the Mojave Basin Area, which is managed by the MWA. Groundwater local to the Sienna Project area is within an area managed in accordance with an Adjudication Judgement. As such, each property owner and water user within the Adjudication Area has an allocated amount of groundwater that is allowed to be produced from that respective parcel(s) in any given year, subject to the management direction of the MWA.

Construction of the Sienna Project would require approximately 225 acre-feet (AF) of water for dust suppression over the assumed 12- to 24-month construction period. During the Sienna Project's 30-year lifetime, water demands would be associated with annual washing of the solar PV panels to maintain efficiency, potential wastewater associated with water treatment by a reverse osmosis deionization system, emergency fire suppression water (stored on-site), and potential operation of the

Sienna Project's O&M building. The estimated operational water demand would be up to 50.36 AF for each year the Sienna Project is operational. According to the WSA prepared for the Sienna Project (Appendix M of this EIR), the Sienna Project's amortized annual water demand is 61.28 AF per year.

Currently the Mojave Basin Area is recovering from historic patterns of over-use and, while some areas continue to be affected by overdraft conditions, other areas are in balance. MWA continues to bolster and expand its available water supply through ongoing banking activities, including through storage of Carryover supplies in San Luis Reservoir. While the State Water Project (SWP) allocation has declined and is expected to continue to decline, MWA is well-placed to continue providing supply to its customers under varying drought scenarios.

According to the WSA prepared for the Sienna Project, 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 (Appendix M of this EIR).

The Sienna Project area consists of numerous parcels, some of which are designated, zoned, and used for agricultural purposes, including irrigated crops. Any conversion of land from irrigated agriculture to solar energy development is assumed to result in a decrease in water demand on the affected parcel(s), because irrigated agriculture is generally more water intensive than solar energy development.

Because the Sienna Project would replace existing uses with less water-intensive uses, and the water demand projections in the MWA's UWMP are based upon the current, more water-intensive uses, it can be inferred that the Sienna Project's water demands are fully accounted for in the UWMP (Appendix M of this EIR). The Sienna Project would not substantially decrease groundwater supplies such that the Sienna Project may impede sustainable groundwater management of the basin. Additionally, the Sienna Project would not include development that would significantly alter the Project site's permeability. Upon operation, the Sienna Project site would remain largely pervious. Therefore, the Sienna Project would not interfere substantially with groundwater recharge when compared to existing conditions.

Based on the evaluation above, construction and operation of the Sienna Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Sienna Project may impede sustainable groundwater management of the basin. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant. According to Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), groundwater would be supplied in either the Este or Centro Subbasins. The amount of groundwater needed for the construction of the proposed Calcite Substation would only require approximately 0.1 percent of groundwater supplied from the Este Subbasin. Impacts related to groundwater decline would be less than significant due to current basin conditions, purchase of water from existing producers, temporary nature of the extra groundwater withdrawals during construction, and requirements of the Judgment. There would be no long-term water use at the proposed Calcite Substation, so no operational impacts on groundwater are expected. Impacts are considered less than significant. (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with groundwater supplies or groundwater recharge. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.10-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

SIENNA PROJECT

Less than Significant Impact. No rivers or streams existing on the Sienna Project site, and the Sienna Project would not alter any rivers or streams. As discussed under Impact 3.10-1, above, since the construction site would be greater than one acre, the Sienna Project would be required to obtain coverage under the NPDES General Permit. In accordance with the requirements of this permit, the Sienna 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 Sienna Project site so runoff does not impact off-site drainage facilities or receiving waters.

After construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that erosion increases when compared to existing conditions. The Sienna Project site would remain largely pervious over the operational life of the Sienna Project. Additionally, the Sienna Project would implement site design BMPs to reduce soil disturbance during operation. Based on the evaluation above, the Sienna Project would not alter drainage patterns to the extent that the Project would result in substantial erosion or siltation on- or off-site. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction activities and O&M associated with the proposed Calcite Substation could alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-

site. Several desert washes that cross the Calcite Substation site flow mainly from the north and west. There is potential for flood flows along these washes to occur and to cross the site during construction that may result in erosion and siltation downstream. Implementation of MM HWQ-3, as described in Section 4.10, Hydrology and Water Quality of the *Stagecoach Solar Project Draft EIR* and provided below, would ensure that a site drainage study is complete prior to construction of the proposed Calcite Substation (California State Lands Commission 2021).

MM HWQ-3 (Drainage Plan Development) would ensure that a site drainage plan is prepared and incorporates a study of potential flood, erosion, and siltation issues by identifying off-site flow concentration points, discharges, and flood depths and widths, and ensuring that flow patterns entering and exiting the site are not altered in a manner that would induce erosion and siltation. The drainage plan developed by MM HWQ-3 would also allow identification of design measures to avoid erosion damage that may result from concentration of flows (e.g., identifying entryways for incoming flood flows, defining collection and conveyance channels, or developing fence design that does not obstruct flows).

During operation of the proposed Calcite Substation, the site would be surrounded by a wall, so flood flows would not enter the substation site itself. However, the proposed Calcite Substation includes structures, access roads, communication equipment, and electric distribution lines that would increase the site's impervious surfaces and potentially result in an increase in discharge frequency and magnitude that would accelerate downstream erosion. This could result in concentration of flows that could induce local erosion. To minimize erosion and siltation impacts associated with O&M activities, MM HWQ-3 would ensure that site drainage would be controlled. Therefore, impacts from construction and O&M activities associated with the proposed Calcite Substation would be reduced to a level less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with alteration of drainage patterns resulting in substantial erosion or siltation on- or off-site. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM HWQ-3 **Drainage Plan Development.** At least 60 days before site mobilization, the Applicant shall submit a Drainage Plan for review and approval to the CSLC and the County of San Bernardino. The Drainage Plan shall address management of stormwater flow during Project construction and operation, and shall contain the following components:

- An assessment of runoff discharges, floodplains, and flood depths entering and passing through the property under conditions both with and without the Project
- Measures to avoid erosion damage that may result from concentration of flows, including consideration of providing dedicated entryways for incoming flood

flows, collection and conveyance channels, and/or fence design that does not obstruct flows

- Consideration of potential flood, erosion, and siltation that could occur on or adjacent to the Project site, by identifying off-site flow concentration points, discharges, and flood depths and widths, and ensuring that flow patterns entering and exiting the site are not altered in a manner that would induce erosion and siltation
- Demonstration that during and after Project construction, existing drainage patterns will not be disturbed, and runoff will not be increased to the extent that either adjacent properties or Project components (substation, O&M building, or BESS) would be adversely affected by erosion or flooding

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HWQ-3, as described in Section 4.10, Hydrology and Water Quality of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with erosion would be reduced to a less than significant level.

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

SIENNA PROJECT

Less than Significant Impact. Water would be used during construction of the Sienna Project (e.g., for dust suppression, soil compaction, and grading) and Project operation (e.g., PV panel washing and site maintenance). Because the construction would involve the disturbance of land greater than one acre, the Sienna Project would be required to obtain coverage under the NPDES General Permit as described in Section 3.10.2. In accordance with the requirements of this permit, the Sienna 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. The Sienna Project site would remain largely pervious over the operational life of the Sienna Project. Upon operation, the Sienna Project 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 to the extent that the Sienna Project would result in flooding on- or off-site. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. As described in Impact 3.10-3(i) above, there are several desert washes that cross the Calcite Substation site mainly from the north and west. There is potential for flood flows along these washes to occur and to cross the site during construction. During operation of the proposed Calcite Substation, the site would be surrounded by a wall, so flood flows would not enter the substation site itself. However, the proposed Calcite Substation includes structures, access roads, communication equipment, and electric distribution lines that would increase the site's impervious surfaces and potentially result in an increase in discharge frequency which could

result in concentration of flows. Implementation of MM HWQ-3, as described in Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR*, would require a site drainage study to be completed and approved prior to grading and construction of the proposed Calcite Substation (California State Lands Commission 2021) to ensure that all site drainage issues are addressed. Therefore, impacts would be reduced to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with an increase in the rate of amount of surface runoff in a manner which would result in flooding on- or off-site. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* is applicable to the proposed Calcite Substation:

MM HWQ-3 Drainage Plan Development

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HWQ-3, as described in Section 4.10, Hydrology and Water Quality of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with an increase in the rate of amount of surface runoff would be reduced to a less than significant level.

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?

SIENNA PROJECT

Less than Significant Impact. No existing storm drain systems exist within the Sienna Project site or downstream of the Sienna Project. See the discussion under Impact 3.10-1 regarding polluted runoff. The Sienna Project would implement a SWPPP that specifies BMPs to be implemented during construction to manage runoff flows. The Sienna Project site would remain largely pervious over the operational life of the Project. Therefore, water will continue to percolate through the ground, as a majority of the surfaces on the Sienna Project site will remain pervious. The Sienna Project would not 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. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. As described in Impact 3.10-1, development of the proposed Calcite Substation would require a SWPPP in compliance with the California General Construction Permit to ensure minimal degradation of water quality resulting from ground-disturbing activities. In addition, hazardous materials would be handled in compliance with relevant laws, ordinances, regulations and standards for the use, storage, and disposal. Implementation of MM HAZ-1 as described in Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR*, would protect against spills of contaminants and ensure appropriate response in the event of a spill.

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with the creation or contribution of runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the proposed Calcite Substation:

MM HAZ-1 **Hazardous Materials Training and Management Plan** (see Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* and Section 3.9, Hazards and Hazardous Materials, of this EIR)

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HAZ-1, as described in Section 4.9, Hazards and Hazardous Materials of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with polluted runoff would be reduced to a less than significant level.

iv. Impede or redirect flood flows?

SIENNA PROJECT

Less than Significant Impact. According to FEMA FIRM maps (Panels 06071C6575H and 06071C5900H) (FEMA 2008), the Sienna Project site is entirely within Zone D, which is classified as an area with possible but undetermined flood hazards. However, according to the Project-specific Hydrology Study (Appendix J of this EIR), significant flooding may be expected across the majority of the lakebed due to the large drainage area that is tributary to Lucerne Dry Lake. The westernmost Project parcels are expected to experience the deepest flooding depths of 1 to 2 feet and the other

Sienna Project parcels would experience slightly lower depths in the event of a flood. To offset potential impacts related to impeding or redirecting flood flows, the proposed Sienna Project would conform to the most recent CBC and the County's building requirement to stay 1 foot above the high-water mark as determined by the Hydrology Study (Appendix J of this EIR).

CALCITE SUBSTATION

Less than Significant Impact. As described in Section 3.10.1 above, FEMA flood insurance rate maps have not been prepared for the Calcite Substation site or surrounding lands and the site is not within a federally mapped floodplain. However, the Calcite Substation area is subject to occasional flooding due mainly to the presence of desert washes. Flow depths are likely shallow due to the flat terrain and lack of definition for the washes. Additionally, runoff is activated by rainfall only, and typical of desert washes, rainfall is of short duration (California State Lands Commission 2021).

Furthermore, if floods occur during construction or operation of the proposed Calcite Substation, implementation of HWQ-3 would require that the site drainage study addresses all issues related to flooding onsite. Therefore, impacts would be reduced to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with flood flows. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* is applicable to the Calcite Substation:

MM HWQ-3 Drainage Plan Development

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HWQ-3, as described in Section 4.10, Hydrology and Water Quality of the *Stagecoach Solar Project Draft EIR*, potential impacts would be reduced to a less than significant level.

Impact 3.10-4 Would the Project be located in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to Project inundation?

SIENNA PROJECT

Less than Significant Impact. As previously described in Impact 3.10-3(iv) above, the Sienna Project site is entirely within Zone D, which is classified as an area with possible, but undetermined flood hazards. However, significant flooding could be expected across the majority of the lakebed due to

the large drainage area that is tributary to Lucerne Dry Lake. As discussed under Impact 3.10-1, above, because the construction site would be greater than one acre, the Sienna Project would be required to obtain coverage under the NPDES General Permit. In accordance with the requirements of this permit, the Sienna 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 Sienna Project site so runoff does not impact receiving waters. Any pollutants or waste that would be produced during Sienna Project operation would be required to be discharged according to all appropriate local, state, and federal laws and regulations. Compliance with the NPDES permit requirements and implementation of BMPs would ensure that the Sienna Project would not risk the release of pollutants due to Project inundation.

The Sienna Project site is not located near any large bodies of water. Furthermore, the Sienna Project site is over 100 miles inland from the Pacific Ocean. Therefore, there is no potential for the Sienna Project site to be inundated by seiches or tsunamis. No impact would occur.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. As previously described in Impact 3.10-1, there is potential for runoff during construction and O&M activities for the Calcite Substation. Flood flows could allow pollutants to enter surface flows representing a potentially significant impact. However, with adherence to and compliance with a SWPPP and erosion control plan, along with implementation of MM HWQ-3, as described in Section 4.10, Hydrology and Water Quality, of the *Stagecoach Solar Project Draft EIR*, impacts would be minimized to the extent practical. This mitigation measure and compliance with water quality regulations would minimize drainage and flooding issues. Additionally, MM HAZ-1, as described in Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR,* would reduce potential for spills of contaminants. Therefore, impacts would be reduced to less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with the release of pollutants due to project inundation. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM HWQ-3 Drainage Plan Development

MM HAZ-1 Hazardous Materials Training and Management Plan (see Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR* and Section 3.9, Hazards and Hazardous Materials, of this EIR)

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM HWQ-3 and MM HAZ-1, as described in Section 4.10, Hydrology and Water Quality and Section 4.9, Hazards and Hazardous Materials of the *Stagecoach Solar Project Draft EIR*, potential impacts related to the risk of release of pollutants due to site inundation would be reduced to a less than significant level.

Impact 3.10-5 Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

SIENNA PROJECT

Less than Significant Impact. As previously mentioned, the Sienna Project site is covered under the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan). The proposed Sienna Project would be required to adhere to the County's Development Code and comply with the NPDES General Construction Permit. Adherence to the NPDES General Permit ensures that the Sienna Project would implement a SWPPP during construction that specifies BMPs to manage water quality. Implementation of Project-specific BMPs are required as a part of applicable WQMPs. Operation of the Sienna Project 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 Sienna Project would not conflict with or obstruct implementation of a water quality control plan.

Furthermore, the Sienna Project's potential impacts on groundwater supplies and groundwater recharge are discussed under Impact 3.10-2. As discussed therein, the Sienna Project would not impede sustainable groundwater management of the basin. Therefore, the Sienna Project would not conflict with or obstruct implementation of a sustainable groundwater management plan. Impacts are considered less than significant.

CALCITE SUBSTATION

No Impact. The Calcite Substation is located within the LVGB. The LVGB is not currently required to have a sustainable groundwater management plan. The Calcite Substation would not conflict with or obstruct implementation water quality objectives for beneficial water uses in the Colorado River Basin Plan. Therefore, construction and operation and maintenance of the Calcite Substation would have no activities or features that would conflict with or obstruct implementation of a water quality control plan or groundwater management plan. As such, no impact would occur (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with a conflict with a water quality control plan or sustainable groundwater management plan. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

This page is intentionally blank.

3.11 Land Use and Planning

This section provides information regarding current land uses, land use designations, and land use policies within and in the vicinity of the Project site. Section 15125(d) of the *CEQA Guidelines* states that "[t]he EIR shall discuss any inconsistencies between the project and applicable general plans and regional plans." This section fulfills this requirement for the Project. In this context, this section reviews the land use assumptions, designations, and policies of the Countywide Policy Plan and other applicable plans, policies, and regulations, which govern land use within the Project area and evaluates the Project's potential to conflict with policies adopted for the purpose of avoiding or mitigating significant environmental effects. Where appropriate, mitigation measures are identified that would avoid or lessen potentially significant impacts.

Information for the proposed Calcite Substation is summarized from the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.11.1 Existing Conditions

Sienna Project

Location and Existing Site Conditions

The proposed Sienna Project is located on approximately 1,854 acres in the southwestern portion of the Mojave Desert and includes the Lucerne Dry Lake, in unincorporated San Bernardino County, California. The Sienna Project is predominately located east of State Route 247 (Barstow Road/SR 247), north of the unincorporated community of Lucerne Valley, with portions of the generation-interconnect (gen-tie) alternative corridors that include possible connections along Haynes Road, Huff Road, and Northside Road to the east of Barstow Road. The site is generally located approximately 35 miles south of Barstow, 45 miles northwest of the town of Yucca Valley, 15 miles southeast of the town of Apple Valley, and 20 miles north of the city of Big Bear Lake. Barstow Road would provide primary access to the Sienna Project. Figure 2-1 depicts the regional location of the Sienna Project area. Figure 2-2 depicts the 27 parcels that comprise the Sienna Project site, and Table 2-1 lists the parcels and the acreage of each (see Chapter 2.0, Project Description, of this EIR).

The Sienna Project site is located within the boundary of the Lucerne Valley Community Plan area. The Lucerne Valley Community Plan area is 277,591 acres. Nearly 73 percent of the land in Lucerne Valley is devoted to agriculture and resources conservation uses. The second-largest use is rural living, covering 22 percent (County of San Bernardino 2020b) Residences in the Lucerne Valley Community Plan area are primarily low-density single-family dwellings on large lots, some with agricultural and animal raising land uses.

Existing conditions within the proposed Sienna Project area are characterized by a mixture of scattered residential properties, undeveloped and vacant land, and agricultural land that includes alfalfa and jojoba farms and large-scale hemp growing operations. Existing land use within the proposed Sienna Project area in the vicinity is primarily rural residential, recreation, farmland, open space, and transportation corridors. Land uses in the area are primarily rural residential, recreation, farmland, open space, and transportation corridors.

The Sienna Project site is primarily located on the floor of the Lucerne Dry Lake, and along its eastern and northern margins. The dry lakebed is heavily used for recreational activities, including off highway vehicle (OHV) travel (including racing) and assorted day use and camping activities. The Rocketry

Organization of California uses the dry lake as one of its designated launch sites, with scheduled launches occurring monthly throughout the year. Additionally, areas outside the dry lake within the Sienna Project area are also subject to various ongoing disturbances related to road maintenance, utility activities (electrical transmission towers and lines; underground gas pipeline), recreation, OHV travel, and illegal dumping.

According to the Phase I ESA prepared for the Sienna Project (Appendix I of this EIR), an 80-acre area (APN 0452-121-18) adjoining the southeast of the Sienna Project site had been used for farming in the past. Between December 2019 and October 2020, that parcel added approximately 350 greenhouses and many more were under construction. Most greenhouses are 2,000 to 3,000 square feet in area. Approximately half of the 80 acres was covered in greenhouses. A 6-acre portion of the site includes over a dozen campers and a shanty-town of shacks. This is most likely an illegal marijuana growing operation, one of many that have appeared in the region in recent years. Also in 2020, a few dozen smaller marijuana growing operations appeared in the open area enveloped by the northern portion of the Sienna Project site, and many more appeared in the vicinity (Appendix I of this EIR).

The Sienna Project is located in a sparsely populated portion of unincorporated San Bernardino County. The nearest conglomerated community is the unincorporated community of Lucerne Valley, approximately 6 miles southwest of the Sienna Project site. Residences are sparsely scattered to the north, east, and south of the Sienna Project site. The nearest residence to the proposed Sienna Project solar facility is located at the north corner of the Sherman Way and Lincoln Road intersection, immediately east of the Accessor Parcel Number 0452-121-42 in the southern portion of the Sienna Project area. The gen-tie corridor may be routed along Meridian Road, Haynes Road, Huff Road, Waalew Road, Tampadero Road, Northside Road, Granite Road, Harrod Road, Lincoln Avenue, and Locust Road. Residential uses are located along each of these roadways.

Renewable Energy Regulation

Over the last decades, the State has mandated that public utilities acquire more renewable energy, including solar-generated electricity. The resulting influx of applications to the County for commercial solar energy generation projects, coupled with concerns about the adequacy of the County's land use regulation of such projects, prompted the Board of Supervisors (Board) to enact a temporary moratorium on June 12, 2013 (Item 12). On December 17, 2013 (Item No. 103), the Board adopted an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities, of the Development Code and terminating the moratorium. These amendments established 31 specific findings that must be made for approval of a commercial solar energy generation project.

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.

The Planning Commission conducted a public hearing on May 24, 2018, recommending that the Board (1) amend the RECE by adopting Policy 4.10, (2) amend Policy 5.2 to add existing energy generation sites to those identified as suitable for utility-oriented renewable energy generation projects, and (3) add Policy 5.9 (collaborating with utilities, the California Energy Commission, and the Bureau of Land Management to plan for renewable energy generation facilities to be located on public lands, apart

from existing unincorporated communities). Thereafter, on February 28, 2019 (Item 1), the Board considered and adopted the Planning Commission recommendation. 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 Land Use Districts, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Code Section 65943 before the effective date of the resolution. The County issued letters indicating that the CUP applications for the Sienna Project were accepted as complete on August 14, 2017 and February 27, 2018.The Sienna Project is not subject to Policy 4.10 as the application for development was accepted as complete by the County prior to the effective date of the resolution (February 28, 2019).

Land Use and Zoning Designations

The privately-owned Sienna Project site is designated as Resource Land Management (RLM) and Rural Living (RL) in the San Bernardino Countywide Plan and zoned "Lucerne Valley – Agriculture" (LV/AG) and "Lucerne Valley – Rural Living (5 Acre Minimum)" (LV/RL-5) (County of San Bernardino 2020a). Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land with County approval of a Conditional Use Permit (CUP).

The Sienna Project is being designed in accordance with San Bernardino County's Solar Ordinance (an ordinance amending Development Code Chapter 84.29, Renewable Energy Generation Facilities) and the County's General Plan Renewable Energy and Conservation Element (San Bernardino County 2020a), which strives to preserve the character of the Project area and surrounding communities.

Airports

The nearest airport to the Sienna Project site is the Holiday Ranch Airport, a privately-owned airport, located approximately 10 miles northwest of the Sienna Project site. The nearest public airports are Apple Valley County Airport and Big Bear City Airport located approximately 15 miles northwest and south of the Sienna Project site, respectively. According to the Countywide Plan Policy Map HZ-9: Airport Safety and Planning Areas, the Sienna Project site is not located within the boundaries of an airport comprehensive land use plan. [1]

Calcite Substation

As shown in Figure 2-2 (Chapter 2.0, Project Description, of this EIR), the proposed Calcite Substation is located northwest of the Sienna Project area, within a 75-acre parcel (APN 0453-041-07) that occupies areas of land both east and west of SR-247 (Barstow Road), directly north of Haynes Road, in San Bernardino County.

[1] San Bernardino Countywide Plan, HZ-9: "Airport Safety & Planning Areas". Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=5dc02b81369c49c9a1947aedfc300a45. Accessed October 21, 2022.

According to Section 4.11, Land Use and Planning, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), there are two residences within 1,000 feet of the proposed Calcite Substation site and one structure that appears to be a greenhouse.

The proposed Calcite Substation would be constructed and operated by SCE, which is an investor-owned public utility subject to the jurisdiction of the California Public Utilities Commission (CPUC), exempting the site from local requirements. Therefore, the proposed Calcite Substation would not be subject to County regulations, discretionary approvals, or oversight (California State Lands Commission 2021).

3.11.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

State

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. A general plan is a comprehensive, long-term document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning.

The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period or more.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan and any applicable specific plans.

California Codes

The California Codes are 29 legal codes enacted by the State Legislature, which together form the general statutory law for the state. Unlike the United States Code or other state legal codes, the California Codes have never been consolidated into a single unified code. The official codes are maintained by the California Legislative Counsel for the Legislature.

California Government Code Section 53091(d) states, "Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." Furthermore, Section 53091(e) states, "Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities that are subject to Section 12808.5 of the Public Utilities Code, or electrical substations in an electrical transmission system that receives electricity at less than 100,000 volts. Zoning ordinances of a county or city shall apply to the location or construction of facilities for the storage or transmission of electrical energy by a local agency, if the zoning ordinances make provision for those facilities."

California Public Utilities Commission

California Public Utilities Commission's (CPUC) review of transmission line applications occurs under two concurrent and parallel processes: (1) environmental review pursuant to CEQA; and (2) review of project needs and costs pursuant to Public Utilities Code Section 1001 et seq. and General Order 131-D.

CPUC General Order 131-D, Rules relating to the planning and construction of electric generation, transmission/power/distribution line facilities, and substations located in California, states that no electric public utilities will begin construction in the state of any new electric generating plant, or of the modification, alteration, or addition to an existing electric generating plant, or of electric transmission/power/distribution line facilities, or of new, upgraded, or modified substations, exceeding 50 kilovolts (kV), without first complying with the provisions of the General Order. For the purposes of the General Order, a transmission line is a line designated to operate at or above 200 kV. A power line is a line designated to operate between 50 and 200 kV. A distribution line is a line designated to operate under 50 kV.

Regional

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal)

The Southern California Association of Governments (SCAG) is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3, 2020, SCAG adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS; Connect SoCal). Connect SoCal includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following goals from Connect SoCal are considered applicable to the proposed Project:

- Goal 5: Reduce GHG emissions and improve air quality
- Goal 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network
- Goal 10: Promote conservation of natural and agricultural lands and restoration of habitats

Local

San Bernardino Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. 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 Policy Plan is divided into 11 Elements, including: Land Use, Housing, Infrastructure and Utilities, Transportation and Mobility, Natural Resources, Renewable Energy and Conservation, Cultural Resources, Hazards, Personal and Property Protection, Economic Development, Health and Wellness. The proposed Sienna Project's consistency with applicable policies under each element is summarized in Table 3.11-1.

As previously stated above, the County issued letters indicating that the CUP applications for the Sienna Project were accepted as complete on August 14, 2017 and February 27, 2018. The Sienna Project is not subject to Policy 4.10 of the RECE as the application for development was accepted as complete by the County prior to the effective date of the resolution (February 28, 2019). Therefore, the Sienna Project's consistency with Policy 4.10 of the RECE is not included in Table 3.11-1.

Lucerne Valley Community Action Guide

In October 2020, the County of San Bernardino Board of Supervisors repealed the 14 Community Plans and accepted 27 Community Action Guides developed for over 80 communities. Overall, the Community Action Guides are a framework for communities to create the future character and independent identity, as identified in the workshops as community values and aspirations, through completion of community actions. The Community Action Guides replace any 2007/2014 Community Plans, with a greater focus on community self-reliance, grass-roots action, and implementation. Goals, policies, land use, and infrastructure decisions are addressed in the Policy Plan of the Countywide Plan. The County Development Code will still regulate zoning and land development.

The Community Action Guide is strategic in nature and provides clear Focus Statements and Action Statements identified by the community that led to creation of an Action Plan that can be implemented at the grass-roots level within each community. Some actions may require assistance by a County department, but the community will take the lead in moving the action forward, identifying funding or scheduling meetings or requesting information from specific County departments.

The Sienna Project site is located within the boundary of the Lucerne Valley Community Plan area (San Bernardino County 2016). The *Lucerne Valley Community Action Guide* is the framework identified by the community that outlines the values, aspirations, and action plans deemed necessary in guiding the long-term vision of Lucerne Valley. The guide is meant as a way to organize activities and provide overall direction to move the Community forward.

San Bernardino County Development Code

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 (Section 84.29.035). 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. Additionally, the ordinance requires that the Planning Commission 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 in a city or unincorporated territory, or on state or federal land. The Sienna Project would be subject to these and additional finding requirements during the County's review and CUP application process.

The privately-owned Sienna Project site is zoned "Lucerne Valley – Agriculture" (LV/AG) and "Lucerne Valley – Rural Living (5 Acre Minimum)" (LV/RL-5) in the General Plan (County of San Bernardino 2020a). Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land with County approval of a Conditional Use Permit (CUP).

Pursuant to Sections 82.03.060 and 82.04.060 of the San Bernardino County Development Code, the maximum height limit for structures in the AG and RL zones is 35 feet, respectively. Section 83.02.040 of the San Bernardino County Development Code allows for miscellaneous structures to be increased by up to 50 percent of the height limit for the applicable zone. With a height exception, the applicable height limit would be 52.5 feet in the AG and RL zones.

This page is intentionally blank.

Table 3.11-1. Sienna Project Consistency with Applicable County Policy Plan Policies

County Policy Plan Policies	Consistency with Policy Plan	Analysis
Land Use Element		
Policy LU-1.5: Development impact fees. We require payment of development impact fees to ensure that all new development pays its fair share of public infrastructure.	Consistent	The Sienna Project is a solar energy project that would be privately funded. Additionally, the Sienna Project would be compliant with the County's Public Safety Services Impact Fees, as determined by the County's solar development standards. The Sienna Project is consistent with this policy.
Policy LU-2.1: Compatibility with existing uses. We require that new development is located, scaled, buffered, and designed to minimize negative impacts on existing conforming uses and adjacent neighborhoods. We also require that new residential developments are located, scaled, buffered, and designed so as to not hinder the viability and continuity of existing conforming nonresidential development.	Consistent	The Sienna Project, which is located in a rural, desert portion of San Bernardino County, would be compatible with existing rural land uses and adjacent residences. The privately-owned Sienna Project site is zoned "Lucerne Valley – Agriculture" (LV/AG) and "Lucerne Valley – Rural Living (5 Acre Minimum)" (LV/RL-5) (County of San Bernardino 2020a). Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land with County approval of a Conditional Use Permit (CUP).
Policy LU-2.3: Compatibility with natural environment. We require that new development is located, scaled, buffered, and designed for compatibility with the surrounding natural environment and biodiversity.	Consistent	The Sienna Project would not result in a significant unavoidable impact to the natural environment (see Section 3.5, Biological Resources).
Policy LU-2.4: Land Use Map consistency. We consider proposed development that is consistent with the Land Use Map (i.e., it does not require a change in Land Use Category), to be generally compatible and consistent with surrounding land uses and a community's identity. Additional site, building, and landscape design treatment, per other policies in the Policy Plan and development standards in the Development Code, may be required to maximize compatibility with surrounding land uses and community identity.	Consistent	See response to LU-2-1 above.
Policy LU-4.1: Context-sensitive design in the Mountain/Desert regions. We require new development to employ site and building design techniques and use building materials that reflect the natural mountain or desert environment and preserve scenic resources.	Consistent	The Sienna Project would be visually consistent with the surrounding desert environment and would be subject to Section 84.29.040 of the San Bernardino County Development Code, which regulates solar energy development standards (see Chapter 3.2, Aesthetics, for details).
Policy LU-4.2: Fire-adapted communities. We require new development in high or very high fire hazard severity zones to apply fire-	Consistent	The Sienna Project would be subject to specific fire prevention standards as determined by state and local laws and regulations (see Chapter 3.9, Hazards and Hazardous Materials, for details).

County Policy Plan Policies	Consistency with Policy Plan	Analysis
resistant design techniques, including fuel modification areas, fire resistant landscaping, and fire-resistant building materials.		
Policy LU-4.5: Community Identity. We require that new development be consistent with and reinforce the physical and historical character and identity of our unincorporated communities.	Consistent	See response to LU-4.1 above.
Policy LU-4.7 Dark skies. We minimize light pollution and glare to preserve views of the night sky, particularly in the Mountain and Desert regions where dark skies are fundamentally connected to community identities and local economies. We also promote the preservation of dark skies to assist the military in testing, training, and operations.	Consistent	The Sienna Project would be visually consistent with the surrounding desert environment and would be subject to Section 84.29.040 of the San Bernardino County Development Code, which regulates solar energy development standards, including standards for glare and night lighting (see Chapter 3.2, Aesthetics, for details).
Infrastructure and Utilities Element		
Policy IU-1.1: Water supply. We require that new development be connected to a public water system or a County-approved well to ensure a clean and resilient supply of potable water, even during cases of prolonged drought.	Consistent	Non-potable water used during construction and operation of the Sienna Project would be obtained from locally produced groundwater using an on- or off-site well, or by purchasing treated water from a local purveyor and trucking it to the Sienna Project site. According to the WSA prepared for the Sienna Project (Appendix M of this EIR), the Sienna Project's amortized annual water demand is 61.28 acre-feet per year. According to the WSA prepared for the Sienna Project, Mojave Water Agency's (MWA) 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 (Appendix M of this EIR).
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.	Consistent	Groundwater local to the Sienna Project area is within an area managed in accordance with an Adjudication Judgement. As such, each property owner and water user within the Adjudication Area has an allocated amount of groundwater that is allowed to be produced from that respective parcel(s) in any given year, subject to the management direction of the MWA. According to the WSA prepared for the Sienna Project, 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 (Appendix M of this EIR).

County Policy Plan Policies	Consistency with Policy Plan	Analysis
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.	Consistent	The Sienna Project would not contribute significant quantities of solid waste to existing landfills. See Section 3.15, Utilities and Service Systems, for details.
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 the reduction, reuse, or recycling of solid waste.	Consistent	The Sienna Project would comply with all state and local waste diversion requirements. See Section 3.15, Utilities and Service Systems, for details.
Policy IU-5.1: Electricity and natural gas service. We partner with other public agencies and providers to improve the availability and stability of electricity and natural gas service in unincorporated communities.	Consistent	The Sienna Project would produce up to 525 megawatts (MW) of solar power and include up to 525 MW of energy storage capacity rate in a battery energy storage system (BESS). The Project would improve the availability and stability of electricity service in unincorporated communities.
Policy IU-5.4: Electric transmission lines: We support 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.	Consistent	The Sienna Project will interconnect at the SCE Calcite Substation via a proposed overhead and/or underground 230-kV gen-tie line in addition to other ancillary facilities utilizing private and potentially public rights-of-way.
Transportation and Mobility Element		
Policy TM-1.1: Roadway level of service (LOS). We require our roadways to be built to achieve the following minimum level of service standards during peak commute periods (typically 7:00-9:00 AM and 4:00-6:00 PM on a weekday): • LOS D in the Valley Region • LOS D in the Mountain Region • LOS C in the North and East Desert Regions	Consistent	The Sienna Project would not have a significant impact on intersection and roadway LOS within the Project area (see Section 3.13, Transportation, for details).
Policy TM-5.6: Unincorporated truck routes. We establish local truck routes in unincorporated areas to efficiently funnel truck traffic to freeways while minimizing impacts on residents. We establish routes where trucks are prohibited in unincorporated environmental justice focus areas and to avoid overlaps or conflicts with safe routes to schools.	Consistent	The proposed Project's truck haul route would be submitted to the County for approval prior to Project construction.
Natural Resources Element		
Policy NR-1.6: Fugitive dust emissions. We coordinate with air quality management districts on requirements for dust control plans, revegetation, and soil compaction to prevent fugitive dust emissions.	Consistent	Construction and operation of the Sienna Project would not result in significant fugitive dust emissions or an associated significant air quality impact (see Section 3.3, Air Quality, for details). As discussed in Section 3.4, Air Quality, the Sienna Project would not generate

County Policy Plan Policies	Consistency with Policy Plan	Analysis
		criteria pollutant emissions that would exceed MDAQMD's thresholds for ozone precursors (VOC and NO_X), CO, SOx, and $PM_{2.5}$. With incorporation of water control measures pursuant to MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035, the Sienna Project would not exceed MDAQMD's threshold for PM_{10}.
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.	Consistent	Operation of the Sienna Project would 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 (see Section 3.8, Greenhouse Gas Emissions, for details).
Policy NR-2.5: Stormwater discharge. We ensure compliance with the County's Municipal Stormwater NPDES (National Pollutant Discharge Elimination System) Permit by requiring new development and significant redevelopment to protect the quality of water and drainage systems through site design, source controls, stormwater treatment, runoff reduction measures, best management practices, low impact development strategies, and technological advances. For existing development, we monitor businesses and coordinate with municipalities.	Consistent	The Sienna Project would be subject to the requirements of the County's Municipal Stormwater NPDES (National Pollutant Discharge Elimination System) Permit (see Section 3.10, Hydrology and Water Quality, for details.
Policy NR-4.1: Preservation of scenic resources. We consider the location and scale of development to preserve regionally significant scenic vistas and natural features, including prominent hillsides, ridgelines, dominant landforms, and reservoirs.	Consistent	See response to LU-4.1 above.
Policy NR-4.2: Coordination with agencies. We coordinate with adjacent Federal, State, Local, and/or Tribal agencies to protect the scenic resources that are important to countywide residents, businesses, and tourists.	Consistent	See response to LU-4.1 above.
Policy NR-5.3: Multiple-resource benefits. We prioritize conservation actions that demonstrate multiple resource preservation benefits, such as biology, climate change adaptation and resiliency, hydrology, cultural, scenic, and community character.	Consistent	With implementation of applicable mitigation measures, construction and operation of the Sienna Project would not result in significant impacts to natural resources (see Section 3.1 through 3.15 of this EIR for details).
Policy NR-5.7: Development review, entitlement, and mitigation. We comply with state and federal regulations regarding protected species of animals and vegetation through the development review, entitlement, and environmental clearance processes.	Consistent	Construction and operation of the Sienna Project would not result in significant and unavoidable impacts to natural resources including protected species of animals and plants (see Section 3.5, Biological Resources, for details).

County Policy Plan Policies	Consistency with Policy Plan	Analysis
Policy NR-7.1: Protection of agricultural land. We protect economically viable and productive agricultural lands from the adverse effects of urban encroachment, particularly increased erosion and sedimentation, trespass, and non-agricultural land development.	Consistent	While the Sienna Project would temporarily convert 456.80 acres of Farmland of Statewide Importance to non-agricultural use, development of the Sienna Project site as proposed would not preclude future use for agricultural purposes. Rather, once decommissioning occurs at the end of the operational life of the solar generating facility, and Project-related elements are removed and properly disposed of, the affected lands could be returned to their former agricultural use.
Policy NR-7.2: Preservation of important farmlands. We require project applicants seeking to develop 20 or more acres of farmland (classified as prime, of statewide importance, or unique farmland) to non-agricultural uses to prepare an agricultural resource evaluation prior to project approval. The evaluation shall use generally accepted methodologies to identify the potentially significant impact of the loss of agricultural land as well as the economic viability and sustainability of future agricultural use of the property, including long-term sustainability and economic viability of water resources. If the conversion is deemed significant, the County shall require mitigation at a 1:1 ratio of converted to preserved acreage through conservation easements, payment of its valuation equivalent if a fee mitigation program is established, or inclusion in a regional agricultural preservation program.	Consistent	See response to NR-7.1 above.
Renewable Energy and Conservation Element		
Goal RE 4: Environmental Compatibility. 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.	Consistent	The Sienna Project would produce up to 525 MW of solar power and include up to 525 MW of energy storage capacity rate in a BESS. The Sienna Project would generate approximately 1,175 GWh of electricity each year or approximately 35,240 GWh over the Project's 30-year operational lifetime. This additional solar-generated energy would be added to the power grid and used in place of electricity generated by fossil-fuel sources.
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.	Consistent	The Sienna Project would be subject to applicable laws, regulations, and ordinances related to the protection of sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources. As described in this EIR, the Sienna Project would result in potentially significant impacts on biological resources, air quality, cultural, archaeological and paleontological resources. However, with implementation of mitigation measures, impacts would be reduced to a level less than significant.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
Policy RE 4.1.1: Consult with Native American tribes in the identification, evaluation, and treatment of cultural resources and in the preparation and implementation of measures required to identify, evaluate, protect, and manage cultural resources.	Consistent	In compliance with AB 52, the County of San Bernardino distributed letters to applicable tribes that had previously requested to be notified of future projects proposed by the County, notifying each tribe of the opportunity to consult with the County regarding the proposed project. Tribal consultation efforts remained ongoing; refer to Section 3.14, Tribal Cultural 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.	Consistent	The Sienna Project is subject to the California Environmental Quality Act, in which a comprehensive Environmental Impact Report is being prepared. The County of San Bernardino Board of Supervisors will consider the information presented in this Environmental Impact Report as they determine whether or not to approve the Sienna Project. A water supply assessment has been prepared for the Sienna Project (see Appendix M of this EIR).
Policy RE-4.2: Local Hydrology and Hydrogeology. Ensure that renewable energy facilities do not disrupt, degrade, or alter the local hydrology and hydrogeology.	Consistent	As discussed in Section 3.10, Hydrology and Water Quality, the Sienna Project will comply with all local, state, and federal laws and regulations to ensure that the local hydrology and hydrogeology would not be altered. The Sienna Project is subject to the requirements of the SWRCB's General Permit for Discharges of Storm Water Associated with Construction Activity. Additionally, the Sienna Project would comply with San Bernardino County Code Title 3, Division 5, Chapter 1, Pollutant Discharge Elimination System Regulations and with the San Bernardino County Stormwater Program Technical Guidance Document, which 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.
RE Policy 4.2.1: Require a groundwater impact assessment that evaluates the short and long-term impacts to groundwater usage.	Consistent	A water supply assessment has been prepared for the Sienna Project (see Appendix M of this EIR). According to the WSA prepared for the Sienna Project, 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 (Appendix M of this EIR).
RE Policy 4.3: Require construction and operation of all renewable energy facilities to minimize negative effects and optimize benefits to unincorporated communities.	Consistent	The Sienna Project will be a positive economic stimulus locally in the form of job creation and associated spending during construction and operation, and to San Bernardino County in the form of property taxes and fee revenues. The Sienna Project is designed to minimize aesthetic, water consumption and air quality impacts.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
RE 4.3.1: Define measures required to minimize ground disturbance, soil erosion, flooding, and blowing of sand and dust, with appropriate enforcement mechanisms in the Development Code.	Consistent	The Sienna Project will apply dust control measures in compliance with MDAQMD regulations, including using water trucks to apply water and/or dust palliatives to minimize the production of visible dust emissions in areas where grading occurs, within the staging areas, and on any unpaved roads used during construction and will employ other required measures to minimize ground disturbance, soil erosion and flooding; refer to Section 3.7, Geology and Soils, and Section 3.10, Hydrology and Water Quality.
RE 4.3.2: Require operators to track and report energy production and other benefits cited in a project proposal, in addition to tracking efforts to avoid and minimize negative impacts.	Consistent	The County will adopt a Mitigation Monitoring and Reporting Program that will track compliance with mitigation measures to minimize negative impacts and any conditions of approval requiring the tracking and reporting of energy production.
RE 4.3.3: Give preference to the utilization of existing infrastructure to minimize the need for additional transmission development.	Consistent	The Sienna Project will interconnect at the proposed SCE Calcite Substation (currently pending environmental clearance and construction).
RE 4.3.4: Establish inspection protocols and programs to ensure that RE facilities are constructed, operated, and eventually decommissioned consistent with the requirements of the San Bernardino County Code, and in a manner that will not be detrimental to the public health, safety, or welfare.	Consistent	The County will conduct inspections are required to ensure compliance with the conditional use permit. Decommissioning would comply with applicable requirements including the requirements of San Bernardino County Development Code Section 84.29.070.
Policy RE 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.	Consistent	See response to LU-4.1 above.
Policy RE 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.	Consistent	See response to LU-4.1 above.
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.	Consistent	As demonstrated in this EIR, the Sienna Project would not result in any significant unavoidable impacts to the environment (see Sections 3.1 through 3.15 for details). All potential impacts of the Sienna Project would be reduced to a less than significant level.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
RE Policy 4.5: Require RE generation facility developers to provide and implement a decommissioning plan that provides for reclamation of the site to a condition at least as good as that which existed before the lands were disturbed or another appropriate end use that is stable (i.e. with interim vegetative cover), prevents nuisance, and is readily adaptable for alternative land uses. Decommissioning plans shall:	Consistent	Decommissioning would comply with applicable regulations including the requirements of San Bernardino County Development Code Section 84.29.070. The Development Code requires a decommissioning plan that includes a cost estimate of the decommissioning and site restoration work and which provides for an inspection after all decommissioning and site restoration has been completed.
RE 4.5.1: Include a cost estimate of the decommissioning and site restoration work for the purpose of providing a bond to guarantee completion of decommissioning		
RE 4.5.2: Provide for an inspection after all decommissioning and site restoration work to ensure that the work has been completed to the standards required by the County, prior to release of the decommissioning bond.		
RE 4.5.3: Require any structures created during construction to be decommissioned and all material recycled to the greatest extent possible	Consistent	All recyclable electronic and/or toxic materials would be recycled in accordance with State and County regulations. The Sienna 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. A collection and recycling program would be utilized to promote recycling of Project components and minimize disposal in landfills. 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.
RE 4.5.4: Require all material recovered during decommissioning and site restoration work of a renewable energy facility, including the renewable energy technology itself, to be reused or recycled to the greatest extent possible.		
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.		
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.	Consistent	General vegetation mapping, identification of all observed plant and animal species, and an assessment for potential federally regulated waters of the U.S. and state-regulated streambed have been conducted and a Biological Resources Technical Report for the Sienna Project has been prepared (see Appendix D1 of this EIR). The Sienna Project is designed to minimize impacts to these resources, to the extent feasible; refer to Section 3.5, Biological Resources.
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.	Consistent	No required habitat conservation offsets have been identified in the EIR.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
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.	Consistent	As described in Section 3.5, Biological Resources, the Sienna Project is designed to minimize impacts to potential habitat and associated native vegetation.
Policy RE 5.1: Encourage the siting of renewable energy generation facilities on disturbed or degraded sites in proximity to necessary transmission infrastructure.	Consistent	Portions of the Sienna Project site have been previously disturbed by agricultural activities, illegal marijuana operations, and illegal dumping of trash. The Sienna Project will interconnect at the proposed SCE Calcite Substation (currently pending environmental clearance and construction).
Policy RE 5.2: Utility-oriented RE generation projects on private land in the unincorporated County will be limited to the site-types below, in addition to meeting criteria established herein and in the Development Code: I. Private lands adjacent to the federal Development Focus Areas supported by the Board of Supervisors that meet siting criteria and development standards II. Waste disposal sites III. Mining sites (operating and reclaimed) IV. Fallow, degraded and unviable agricultural lands V. Airports (existing and abandoned or adaptively re-used) VI. Brownfields VII. California Department of Toxic Substance Control Cleanup Program sites VIII. Resource Conservation and Recovery Act sites IX. Sites within or adjacent to electric transmission and utility distribution corridors X. Existing energy generation sites XI. Industrial zones proven to not conflict with economic development needs XII. Other sites proven by a detailed suitability analysis to reflect the significantly disturbed nature or conditions of those listed above	Consistent	Portions of the Sienna Project site have been previously disturbed by agricultural activities, illegal marijuana operations, and illegal dumping of trash. The Sienna Project will interconnect at the proposed SCE Calcite Substation (currently pending environmental clearance and construction). Furthermore, the Sienna Project is consistent with Chapter 84.29, Renewable Energy Generation Facilities, of the San Bernardino County Development Code, which allows the development of renewable energy solar facilities on land within the “Agricultural” and “Rural Living” zones with approval of a CUP. The Sienna Project, which is zoned “Lucerne Valley – Agriculture” and “Lucerne Valley – Rural Living (5 Acre Minimum)”.
Policy RE 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.	Consistent	See response to LU-4.1 above.
Policy RE 5.7.1: Site renewable energy generation facilities in a manner that will avoid, minimize or substantially mitigate adverse impacts to	Consistent	As demonstrated in this EIR, the Sienna Project would not result in any significant unavoidable impacts to the environment (see Sections 3.1 through 3.15 for details).

County Policy Plan Policies	Consistency with Policy Plan	Analysis
sensitive habitats, cultural resources, surrounding land uses, and scenic viewsheds.		
Policy RE 5.8: Discourage conversion of productive or viable prime agricultural lands to RE generation facilities.	Consistent	As discussed in Section 3.3, Agricultural Resources, the Sienna Project would result in the temporary conversion of approximately 456.80 acres of Farmland of Statewide Importance to non-agricultural use (solar facility). While the Sienna Project would temporarily convert Farmland of Statewide Importance to non-agricultural use, development of the Sienna Project site would not preclude future use for agricultural purposes. Rather, once decommissioning occurs at the end of the operational life of the solar generating facility, and Project-related elements are removed and properly disposed of, the affected lands could be returned to their former agricultural use. In accordance with Section 84.29.070, Decommissioning Requirements, of the San Bernardino County Development Code, the Sienna Project applicant will be required to submit a Closure Plan to the Planning Division for review and approval.
Cultural Resources Element		
Goal CR-1: Tribal cultural resources that are preserved and celebrated out of respect for Native American beliefs and traditions	Consistent	Tribal notification and coordination were completed for the Sienna Project. As discussed in Section 3.14, Tribal Cultural Resources, there are no known tribal cultural resources on the Sienna Project site. However, the Sienna Project has the potential to unearth undiscovered cultural resources during ground disturbing activities. Mitigation measures identified in Section 3.14, Tribal Cultural Resources, would minimize potential impacts to a less than significant level.
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.	Consistent	In compliance with AB 52, the County of San Bernardino distributed letters to applicable tribes that had previously requested to be notified of future projects proposed by the County, notifying each tribe of the opportunity to consult with the County regarding the proposed project. Tribal consultation efforts remained ongoing; refer to Section 3.14, Tribal Cultural Resources.
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	Consistent	See response to CR-1 above.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
appropriate mitigation to minimize project impacts on tribal cultural resources.		
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.	Consistent	As discussed in Section 3.6, Cultural Resources, none of the five resources that are eligible for listing in the NRHP and/or CRHR identified in the Sienna Project area would be significantly impacted by the Sienna Project. The Sienna Project would not result in a significant impact to these four historical resources as defined by Section 15064.5(b) of the *CEQA Guidelines*. As discussed in Section 3.6, Cultural Resources, construction of the Sienna Project has the potential to affect archaeological resources during Project construction. However, implementation of mitigation measures would reduce potential impacts to a level less than significant. As discussed in Section 3.7, Geology and Soils, construction grading, trenching and other ground disturbing activities associated with development of the proposed Project may damage or destroy previously undisturbed, paleontologically sensitive geologic deposits. However, implementation of mitigation measures would reduce potentially significant impacts to a less than significant level.
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-2.3: 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.	Consistent	See response to CR-2.1 above.
Hazards Element		
Policy HZ-1.2: New development in environmental hazard areas. We require all new development to be located outside of the environmental hazard areas listed below. For any lot or parcel that does not have sufficient buildable area outside of such hazard areas, we require adequate mitigation, including designs that allow occupants to shelter in place and to have sufficient time to evacuate during times of extreme weather and natural disasters. • Flood: 100-year flood zone, dam/basin inundation area	Consistent	As discussed in Section 3.10, Hydrology and Water Quality, the Sienna Project site is entirely within Zone D, which is classified as an area with possible but undetermined flood hazards. To offset potential impacts related to impeding or redirecting flood flows, the proposed Sienna Project would conform to the most recent CBC and the County's building requirement to stay 1 foot above the high-water mark as determined by the Hydrology Study.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
• Geologic: Alquist Priolo earthquake fault zone; County-identified fault zone; rockfall/debris-flow hazard area, medium or high liquefaction area (low to high and localized), existing and County-identified landslide area, moderate to high landslide susceptibility area) • Fire: high or very high fire hazard severity zone		As discussed in Section 3.7, Geology and Soils, the Sienna Project site is not located within an Alquist-Priolo Special Studies Fault Zone, fault zone, rockfall/debris-flow hazard area, medium or high liquefaction area, or existing and County-identified landslide area. As discussed in Section 3.9, Hazards and Hazardous Materials, Sienna Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones.
Policy HZ-1.13: Fire protection planning. We require that all new development in County-designated Fire Safety Overlay and/or CAL FIRE-designated Very High Fire Hazard Severity Zones meet the requirements of the California Fire Code and the California Building Code as amended by the County Fire Protection District, including Title 14 of the California Code of Regulations fire safety requirements for any new development within State Responsibility Areas, as well as provide and maintain a Fire Protection Plan or Defensible Space/Fuel Modification Plan and other pre-planning measures in accordance with the County Code of Ordinances.	Consistent	As described in Section 3.9, Hazards and Hazardous Materials, the Sienna Project is not within a CAL FIRE-designated Very High Fire Hazard Severity Zone. Additionally, the Sienna Project would be subject to state and local fire prevention regulations and standards (see Chapter 2, Project Description, and Section 3.9, Hazards and Hazardous Materials, for details).
Policy HZ-1.14: Long-term fire hazard reduction and abatement. We require proactive vegetation management/hazard abatement to reduce fire hazards on existing private properties, along roadsides of evacuation routes out of wildfire prone areas, and other private/public land where applicable, and we require new development to enter into a long-term maintenance agreement for vegetation management in defensible space, fuel modification, and roadside fuel reduction in the Fire Safety Overlay and/or Very High Fire Hazard Severity Zones.	Consistent	See response to Policy HZ-1.13 above.
Policy HZ-1.15: Evacuation route adequacy. We coordinate with CAL FIRE, California's Office of Emergency Services, and other local fire districts to identify strategies that ensure the maintenance and reliability of evacuation routes potentially compromised by wildfire, including emergency evacuation and supply transportation routes.	Consistent	As described in Section 3.9, Hazards and Hazardous Materials, construction and operation of the Sienna Project would not interfere with designated evacuation routes. The Sienna Project is approximately one mile east of SR 247 (Barstow Road), which is an evacuation route within the County. Barstow Road would provide primary access to the Sienna Project.
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.	Consistent	As discussed in Section 3.12, Noise, cumulative construction noise would potentially exceed applicable FTA thresholds. Implementation of Mitigation Measure NOI-1 would include limiting the most intensive excavating and earthmoving machinery to daytime hours, scheduling construction activity during daytime working hours, to the extent

County Policy Plan Policies	Consistency with Policy Plan	Analysis
		feasible, installation of temporary noise barriers and/or blankets with a minimum height of eight feet shall be deployed when construction activities are within 100 feet of a sensitive receiver. The Sienna Project would not result in significant noise impacts exceeding the County's applicable noise thresholds and would not require mitigation such as permanent buffers, soundwalls, and other perimeter measures.
Policy HZ-3.1: Health risk assessment. We require projects processed by the County to provide a health risk assessment when a project could potentially increase the incremental cancer risk by 10 in 1 million or more in unincorporated environmental justice focus areas, and we require such assessments to evaluate impacts of truck traffic from the project to freeways. We establish appropriate mitigation prior to the approval of new construction, rehabilitation, or expansion permits.	Consistent	As discussed in Section 3.4, Air Quality, since the Sienna Project is a solar facility and is not categorized as a listed project type (industrial project, distribution center, dry cleaner, and gasoline dispensing facility) by MDAQMD, evaluation of the Project's TAC emissions using the MDAQMD thresholds is not required. Therefore, no quantitative health risk assessment is necessary, and TAC emissions generated by the Project are qualitatively assessed. The PM_{10} exhaust emissions associated with the Sienna Project are relatively low, with construction exhaust generating less than two tons during the entire duration. Therefore, given the short duration of exposure and the low concentration of exhaust PM_{10}, DPM generated by Sienna Project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than 10 in one million or to generate ground-level concentrations of noncarcinogenic TACs that exceed a Hazard Index greater than one in one million for the Maximally Exposed Individual (see Appendix C of this EIR). Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the Sienna Project.
Personal and Property Protection Element		
Policy PP-3.6: Concurrent protection services. We require that fire department facilities, equipment, and staffing required to serve new development are operating prior to, or in conjunction with new development.	Consistent	The Sienna Project site is located within District 5 of the San Bernardino County Fire Protection District. The nearest fire station to the site is San Bernardino County Fire Station No. 8, located at 33269 Old Woman Springs Road in Lucerne Valley and is approximately 3.5 miles southwest of the site. The Sienna Project would be constructed in compliance with requirements from San Bernardino County Fire (conditions of approval) and would be subject to payment of Public Safety Public Safety Services Impact Fees in conformance with San Bernardino County Development Code Section 84.29.040(d) for solar facilities to ensure that the Project would not adversely affect the provision of fire protection services in the area.

County Policy Plan Policies	Consistency with Policy Plan	Analysis
Policy PP-3.7: Fire safe design. We require new development in the Fire Safety Overlay to comply with additional site design, building, and access standards to provide enhanced resistance to fire hazards.	Consistent	See response to Policy HZ-1.13 above.

Source: San Bernardino County 2020a

3.11.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to land use and planning, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to land use and planning are considered significant if any of the following occur:

- physically divide an established community; or
- 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

Impact Analysis

Impact 3.11-1 Would the Project physically divide an established community?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project is located in a sparsely populated portion of unincorporated San Bernardino County. The nearest conglomerated community is the unincorporated community of Lucerne Valley, approximately 6 miles southwest of the Sienna Project site. Residences are sparsely scattered to the north, east, and south of the Sienna Project site. The nearest residence to the proposed Sienna Project solar facility is located at the north corner of the Sherman Way and Lincoln Road intersection, immediately east of the Accessor Parcel Number 0452-121-42 in the southern portion of the Sienna Project area. The gen-tie corridor may be routed along Meridian Road, Haynes Road, Huff Road, Waalew Road, Tampadero Road, Northside Road, Granite Road, Harrod Road, Lincoln Avenue, and Locust Road. Residential uses are located along each of these roadways.

Residences within the vicinity surrounding the Sienna Project site are sparsely scattered, such that implementation of the Sienna Project would not divide an established community. Although the Sienna Project would cover a relatively large area (1,854 acres), the Project would maintain all existing access routes and would not result in the construction of new access routes or the elimination of existing area roadways that could have the potential to isolate existing uses or create a division between existing local uses. Therefore, impacts would be less than significant.

CALCITE SUBSTATION

Less than Significant Impact. According to Section 4.11, Land Use and Planning, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation would not present a barrier to movement and would not divide an established community. The proposed Calcite Substation site is currently vacant. Construction and O&M of the proposed Calcite Substation would be within a fenced area and set back more than 500 feet west of SR-247. There are two residences located north and northeast of the Calcite Substation site and the local road network providing access to these properties would not be blocked. As such, impacts would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with the potential to physically divide an established community. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.11-2 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?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project's consistency with applicable land use plans, policies, and regulations is evaluated below.

San Bernardino Countywide Plan/Policy Plan

The proposed Sienna Project's consistency with applicable policies under each element of the Policy Plan is summarized in Table 3.11-1.

As previously stated above, the County adopted an amendment to the RECE 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 adopted 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. The County issued letters indicating that the CUP applications for the Sienna Project were accepted as complete on August 14, 2017 and February 27, 2018.The Sienna Project is not subject to Policy 4.10 as the application for development was accepted as complete by the County prior to the effective date of the resolution (February 28, 2019).

San Bernardino County Development Code

Sections 82.03.040 and 82.04.040. The privately-owned Sienna Project site is zoned LV/AG and LV/RL-5. Pursuant to Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code, the County allows for the development of renewable energy generation facilities on AG and RL land with County approval of a CUP. Therefore, with approval of the CUP, the proposed Sienna Project

would not conflict with Sections 82.03.040 and 82.04.040 of the San Bernardino County Development Code.

Pursuant to Sections 82.03.060 and 82.04.060 of the San Bernardino County Development Code, the maximum height limit for structures in the AG and RL zones is 35 feet, respectively. Section 83.02.040 of the San Bernardino County Development Code allows for miscellaneous structures to be increased by up to 50 percent of the height limit for the applicable zone. With a height exception, the applicable height limit would be 52.5 feet in the AG and RL zones. The Sienna Project is proposing to obtain a variance pursuant to Development Code Chapter 85.17 from this height restriction to allow gen-tie poles up to 105 to 114 feet in height.

Section 84.29.070. As previously discussed in Section 3.3, Agricultural Resources, of this EIR, the Sienna Project would result in the temporary conversion of approximately 456.80 acres of Farmland of Statewide Importance to non-agricultural use (solar facility). While the Sienna Project would temporarily convert Farmland of Statewide Importance to non-agricultural use, development of the Sienna Project site would not preclude future use for agricultural purposes. Rather, once decommissioning occurs at the end of the operational life of the solar generating facility, and Project-related elements are removed and properly disposed of, the affected lands could be returned to their former agricultural use. In accordance with Section 84.29.070, Decommissioning Requirements, of the San Bernardino County Development Code, the Sienna Project applicant will be required to submit a Closure Plan to the Planning Division for review and approval.

Airport Comprehensive Land Use Plan

The nearest airport to the Sienna Project site is the Holiday Ranch Airport, a privately-owned airport, located approximately 10 miles northwest of the Sienna Project site. The nearest public airports are Apple Valley County Airport and Big Bear City Airport located approximately 15 miles northwest and south of the Sienna Project site, respectively. According to the Countywide Plan Policy Map HZ-9: Airport Safety and Planning Areas, the Sienna Project site is not located within the boundaries of an airport comprehensive land use plan. [2] Therefore, the Sienna Project would result not conflict with an airport comprehensive land use plan and no impact would occur.

Based on the above analysis, the proposed Sienna Project would not 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. Impacts are considered less than significant.

CALCITE SUBSTATION

Significant and Unavoidable. The proposed Calcite Substation would be under jurisdiction of the CPUC. As previously mentioned, the proposed Calcite Substation would be constructed and operated by SCE, which is an investor- owned public utility subject to the jurisdiction of the CPUC and would not be subject to County regulations, discretionary approvals, or oversight. Utility projects in the CPUC's jurisdiction are exempt from local land use and zoning regulations and permitting, but CPUC's General Order No. 131-D, section III.C requires that the utility "communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any nondiscretionary local permits." In its County Policy Plan, the County has designated the substation parcel and surrounding properties as R/LM, and the entire area is within the LVCP (California State Lands Commission 2021).

[2] San Bernardino Countywide Plan, HZ-9: "Airport Safety & Planning Areas". Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=5dc02b81369c49c9a1947aedfc300a45. Accessed October 21, 2022.

As discussed in Section 4.11, Land Use and Planning, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), SCE proposes to construct the proposed Calcite Substation and associated facilities in order to connect the Stagecoach Solar Generation Plant to SCE's existing Lugo-Pisgah No. 1 220 kV Transmission Line.

It appears that the proposed Calcite Substation and associated facilities would not be constructed in the absence of the Stagecoach Facilities. As a result, because the proposed Calcite Substation and associated facilities are within an area where the County has prohibited utility-scale renewable energy development, all components of the Stagecoach Solar Project, including the Calcite Substation, would be inconsistent with the County's RECE. There is no mitigation for this inconsistency, so the impact is significant and unavoidable (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a significant and unavoidable impact associated with the potential to conflict with an applicable land use plan. As described in the analysis above, there is no mitigation to reduce the impact regarding the inconsistency with the County's RECE. This impact would be significant and unavoidable. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

No mitigation is available to mitigate the impact regarding conflict with the County's RECE. The impact would be significant and unavoidable.

3.12 Noise and Vibration

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the Project in relation to noise and vibration. This section also discusses noise mitigation, where applicable. Information contained in this section is summarized from the *Noise Study* prepared by Rincon Consultants, Inc. (Appendix I of this EIR) and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.12.1 Existing Conditions

Noise is defined as unwanted sound. Pressure waves traveling through air exert a force registered by the human ear as sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Consequently, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz to imitate the human ear's decreased sensitivity to low and extremely high frequencies. This emulation of the human ear's frequency sensitivity is referred to as A-weighting and is expressed in units of dBA. Frequency A weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the specific sound level from a source is measured using a meter incorporating an electrical filter corresponding to the A-weighting curve. All noise levels reported are A-weighted unless otherwise stated.

Noise Exposure and Community Noise

Community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources that constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. Community noise is constantly changing throughout the day because of short duration single event noise sources, such as aircraft flyovers, vehicle passersby, and sirens. These successive additions of sound to the community noise environment vary the community noise level from instant to instant. This requires the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below (Appendix I of this EIR):

- The equivalent sound level (L_{eq}) is used to describe noise over a specified period of time, typically 1 hour, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- The instantaneous maximum noise level (L_{max}) for a specified period of time.
- The 24-hour day and night (L_{dn}) A-weighed noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10 p.m. and 7 a.m. is weighted (penalized) by

adding 10 dB to take into account the greater annoyance of nighttime noises. Similar to L_{dn}, community noise equivalent Level (CNEL) adds a 5 dBA "penalty" for the evening hours between 7 p.m. and 10 p.m. in addition to a 10 dBA penalty between the hours of 10 p.m. and 7 a.m.

Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Appendix I of this EIR).

In technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while easily confused are two distinct characteristics of sound. Both share the same unit of measure, the decibel (dB). However, the sound power level, expressed as Lw, is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave in the air that exerts pressure on receivers such as an eardrum or microphone, the SPL. Sound measurement instruments only measure SPL, and limits used in standards are generally SPL. Modeling uses the Lw of equipment to calculate the SPL at a distance.

Noise levels are commonly measured in dB using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 HZ and less sensitive to frequencies around and below 100 Hz (Appendix I of this EIR). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB, dividing the energy in half would result in a 3 dB decrease (Appendix I of this EIR).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy). However, a change of 5 dBA is readily perceptible (8 times the sound energy) and an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] Appendix I of this EIR).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Appendix I of this EIR). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Appendix I of this EIR). Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this "shielding" depends on the size of

the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Appendix I of this EIR). Structures can substantially reduce exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of Project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the L_{eq}; it considers both duration and sound power level. The L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. The L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Appendix I of this EIR).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using L_{dn}, which is the 24-hour average noise level with a 10 dBA penalty for noise occurring during nighttime (10:00 PM to 7:00 AM) hours. Community noise can also be measured using Community Noise Equivalent Level (CNEL or LDEN), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a 10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Appendix I of this EIR). The relationship between the peak-hour L_{eq} value and the CNEL/L_{dn} depends on the distribution of traffic during the day, evening, and night.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

1. Subjective effects of annoyance, nuisance, dissatisfaction;
2. Interference with activities such as speech, sleep, learning; and.
3. Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial settings can experience noise in the last category. A satisfactory method for measuring the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction does not exist. However, a wide variation in individual thresholds of annoyance does exist, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted; i.e., the "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur (Appendix I of this EIR):

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside of the laboratory, a 3 dBA change is considered a perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected.

- A 10 dBA change is subjectively heard as approximately a doubling in loudness and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the dB system. The human ear perceives sound in a nonlinear fashion hence the dB scale was developed. Because the dB scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dB, the combined sound level would be 53 dB, not 100 dB. Because of this sound characteristic, if there are two noise emission sources, one producing a noise level greater than 9 dB than the other, the contribution of the quieter noise source is negligible, and the sum of the noise sources is that of the louder noise source.

Vibration

Ground-borne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most ground-borne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Appendix I of this EIR).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as ground-borne noise. Ground-borne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (Appendix I of this EIR). Although ground-borne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Appendix I of this EIR). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

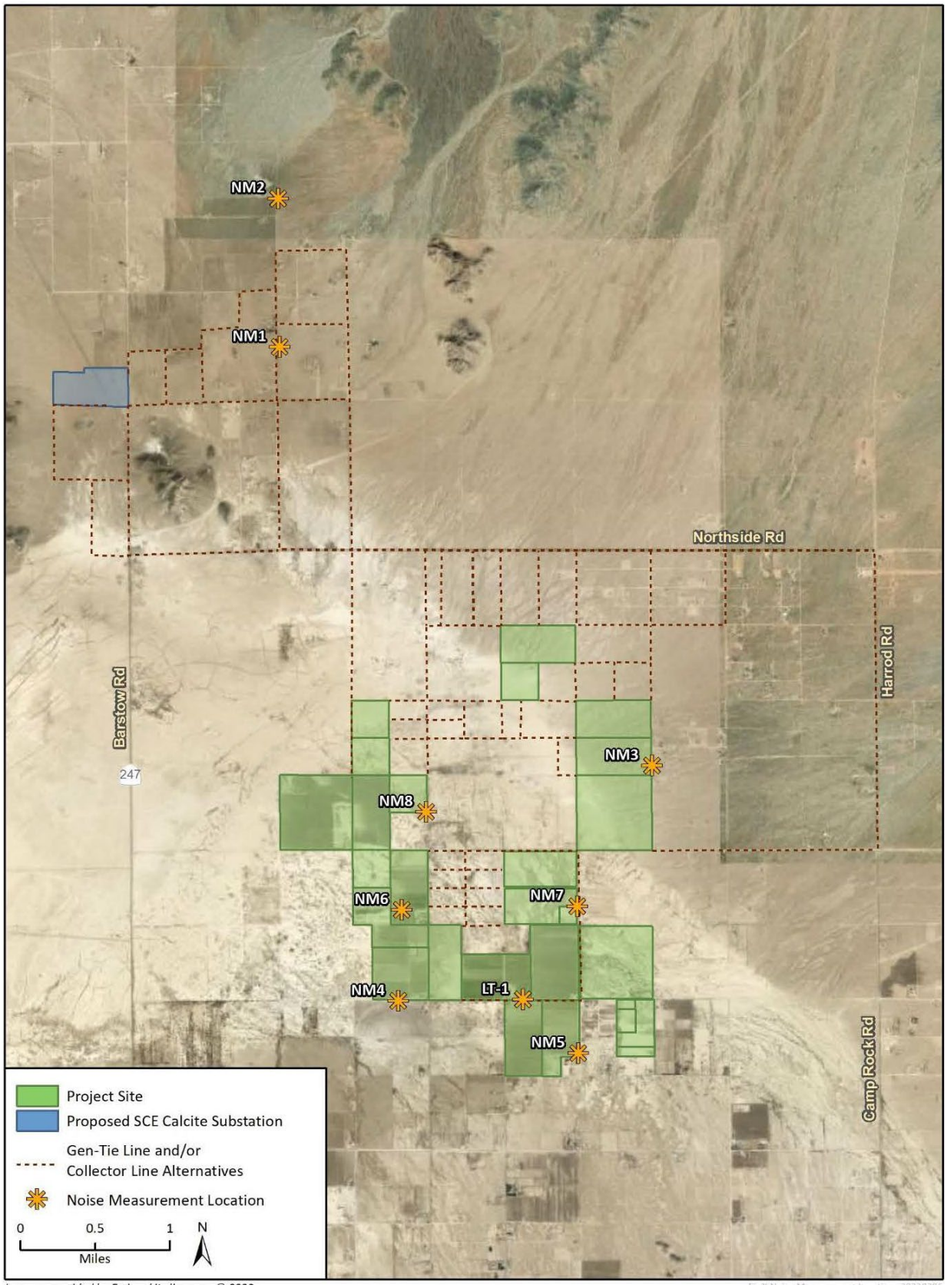
Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec.). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Appendix I of this EIR).

3.12.2 Existing Project Area Noise Levels

The Project area is characterized by a mixture of residential properties, undeveloped playa and desert scrub communities, and agricultural land. The primary sources of noise in the surrounding area include

aircraft over-flights, powerline hum, motor vehicles, wind, birds, and neighborhood activities (e.g., air-conditioners, music, horses, dogs).

To evaluate existing noise levels in the Project area, eight 15-minute noise measurements (NM1 through NM8) were conducted on and near the Project area on July 21, 2021 and one long term 24-hour noise measurement was conducted July 21 to July 22, 2021. Figure 3.12-1 shows the locations of the noise measurements. The noise measurement locations were chosen to provide a representative range of ambient noise levels across the Project area and in the nearby area, especially near existing noise-sensitive residences and roadways. The short-term noise measurement results are shown in Figure 3.12-1. Noise Measurement Locations



Source: Appendix L of this EIR

and the long term 24-hour noise measurement results are shown in Table 3.12-2.

Table 3.12-1. Noise Monitoring Results in the Project Area – Short Term

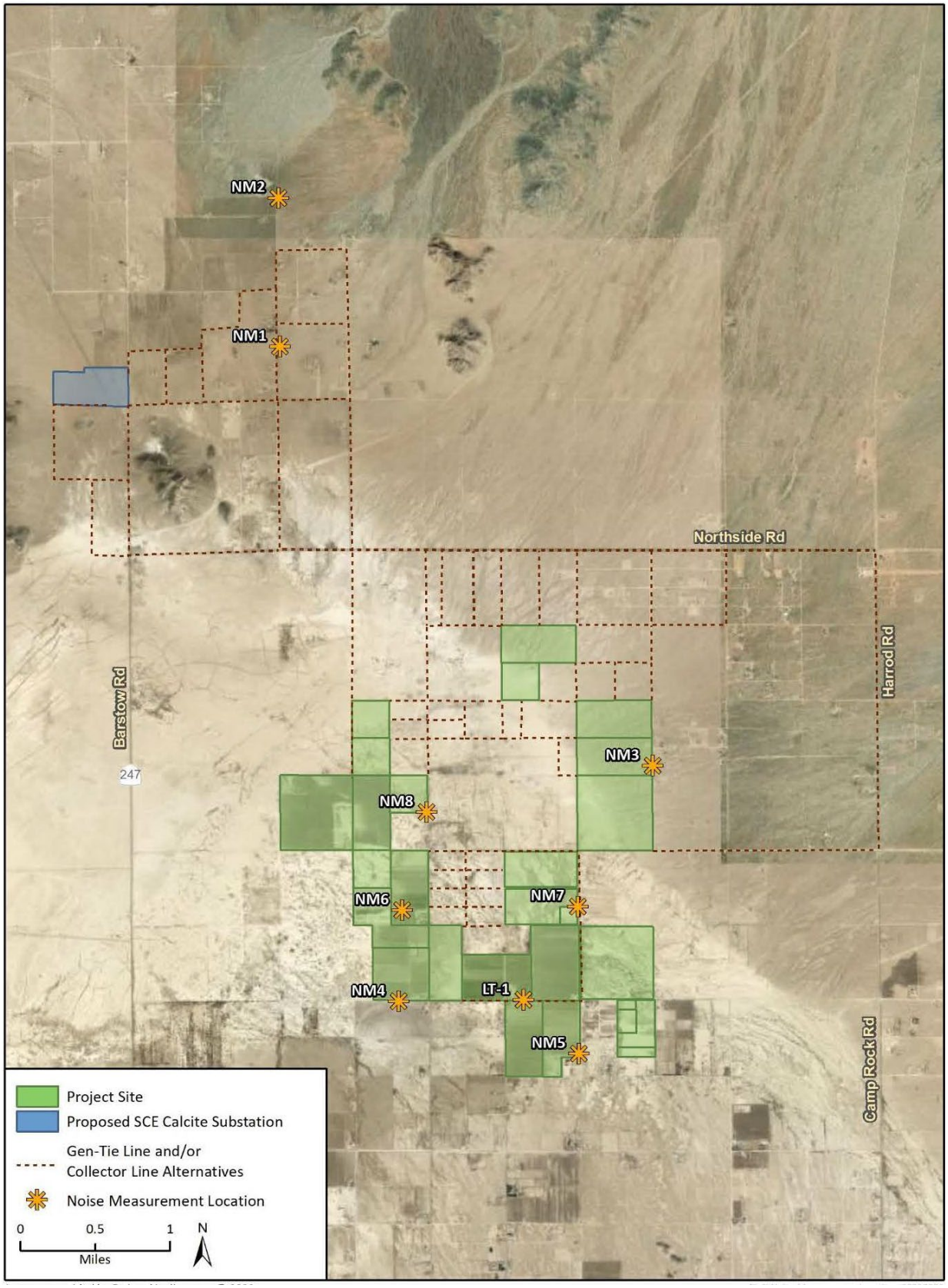
Measurement Site	Measurement Location	Sample Times	Appropriate Distance to Primary Noise Source	Leq (dBA)	Lmin (dBA)	Lmax (dBA)
NM1	East of Meridian Road and Powerline Road	1:14 – 1:29 p.m.	20 feet from Meridian Road centerline	40	32	61
NM2	East of Meridian Road and No End Road	12:42 – 12:57 a.m.	25 feet from Meridian Road centerline	35	27	53
NM3	Cover Road west of Locust Avenue	8:15 – 8:30 a.m.	10 feet from Cove Road centerline	35	24	50
NM4	Lincoln Road south of Cambria Road	10:07 – 10:22 a.m.	10 feet from Lincoln Road centerline	30	27	44
NM5	West of Locust Avenue, center of Gaeta Parcel	8:54 – 9:09 a.m.	900 feet from Locust Avenue centerline	30	24	48
NM6	Lincoln Road north of Cambria Road	11:03 – 11:18 a.m.	25 feet from Lincoln Road centerline	45	26	70
NM7	Locust Avenue north of Granite Road	9:28 – 9:43 a.m.	30 feet from Locust Road centerline	35	24	51
NM8	South of Desert Lane at Waalew Road	12:03 – 12:18 a.m.	35 feet from Desert Lane centerline	30	26	48

Source: Appendix I of this EIR

Notes: dBA=A-weighted decibels

[1] The equivalent noise level (L_{eq}) is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). For these measurements, the L_{eq} was over a 15-minute period.

Figure 3.12-1. Noise Measurement Locations



Source: Appendix L of this EIR

Table 3.12-2. Project Area Noise Monitoring Results – Long Term

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
24-Hour Measurement – Cambria Road – July 21 through July 22, 2021			
2:41 p.m.	52	2:41 a.m.	48
3:41 p.m.	44	3:41 a.m.	52
4:41 p.m.	58	4:41 a.m.	47
5:41 p.m.	48	4:41 a.m.	57
6:41 p.m.	53	6:41 a.m.	61
7:41 p.m.	47	7:41 a.m.	57
8:41 p.m.	49	8:41 a.m.	41
9:41 p.m.	50	9:41 a.m.	46
10:41 p.m.	53	10:41 a.m.	45
11:41 p.m.	53	11:41 a.m.	49
12:41 a.m.	53	12:41 p.m.	60
1:41 a.m.	50	1:41 p.m.	62
24-Hour Noise Level (CNEL)			**61**

Source: Appendix I of this EIR

Notes: L_{eq} =average noise level equivalent; dBA=A-weighted decibel; CNEL=Community Noise Equivalent Level defined as the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a 10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m.

Sensitive Receptors

Sienna Project

Although noise pollution can affect all segments of the population, certain groups and land uses are considered more sensitive to ambient noise levels than others, sensitivity being a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. Children, the elderly, and the chronically or acutely ill are the most sensitive population groups.

Residential land uses are also generally more sensitive to noise than commercial and industrial land uses. Sensitive receivers nearby the Sienna Project site include rural single-family residences associated with agricultural properties. The nearest agriculturally zoned residences are located adjacent to potential gen-tie routes, collector lines, and solar arrays for the Sienna Project. For the analysis, it is assumed that gen-tie corridor and collector line construction would occur within 50 feet of noise-sensitive receivers and solar array construction would occur within 100 feet of noise-sensitive receivers.

The closest single-family residence is located at the north corner of the Sherman Way and Lincoln Road intersection, immediately east of the Accessor Parcel Number 0452-121-42 in the southern portion of the Sienna Project area.

Calcite Substation

According to Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the nearest noise-sensitive receptors include two potential residences approximately 700 and 860 feet from the proposed Calcite Substation site (California State Lands Commission 2021).

Proximity to Airports

Sienna Project

The Sienna Project site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Sienna Project site is the Holiday Ranch Airport, a privately-owned airport, located approximately 10 miles northwest of the Sienna Project site. The nearest public airports are Apple Valley County Airport and Big Bear City Airport located approximately 15 miles northwest and south of the Sienna Project site, respectively.

Calcite Substation

The proposed Calcite Substation site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Calcite Substation site is the Holiday Ranch Airport, a privately-owned airport, located approximately 7 miles northwest of the Calcite Substation site. The nearest public airport is the Apple Valley County Airport located approximately 13.50 miles northwest of the Calcite Substation site.

3.12.3 Regulatory Setting

This section identifies and summarizes federal, State, and local laws, policies, and regulations that are applicable to the Project.

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR, Part 205, Subpart B. The federal truck passersby noise standard is 80 dB at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. In addition to noise standards for individual vehicles, under regulations established by the U.S. Department of Transportation's Federal Highway Administration, noise abatement must be considered for certain federal or federally-funded projects. Abatement is an issue for new highways or significant modification of an existing freeway. The agency must determine if the project would create a substantial increase in noise or if the predicted noise levels approach or exceed the Noise Abatement Criteria.

State

The state has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (CCR, Title 24). The noise insulation standards set forth an interior standard of L_{dn} 45 dB for any habitable room. They also require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than Ldn 60 dB. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

The State of California General Plan Guidelines, published by the OPR in 1998, also provide guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors that may be used in order 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

San Bernardino County Countywide/Policy Plan

The San *Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The proposed Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Relevant policies and goals applicable to the Project are as follows:

Policy HZ-2.8: Proximity to noise generating uses. We limit or restrict new noise sensitive land uses in proximity to existing, conforming noise generating uses and planned industrial areas.

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 Development Code

The San Bernardino County Development Code provides uniform performance standards for development within the County that promotes compatibility with surrounding areas and land uses. Section 83.01.080 establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating uses. The San Bernardino County Development Code provides regulations for construction or operational noise that would apply to the Project.

Section 83.01.080(c)(1), *Noise Standards for Stationary Noise Sources* (Table 3.12-3), establishes noise standards for noise emanating from a stationary noise source as it affects adjacent properties.

Table 3.12-3. Noise Standards for Stationary Noise Sources

Affected Land Uses (Receiving Noise)	7 am – 10 pm Leq	10 pm – 7 am Leq
Residential	55dBA	45 dBA
Professional Services	55 dBA	55 dBA
Other Commercial	60 dBA	60 dBA
Industrial	70 dBA	70 dBA

Source: Appendix I of this EIR

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 1, 8 or 24 hours.

dBA=(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.

The following adjustments are applicable to the standards in Table 3.12-3:

For a cumulative period of more than 30 minutes in any hour.

(A) The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour.

(B) The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour.

(C) The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour.

(D) The noise standard plus 20 dBA for any period of time.

Section 83.01.080(d), *Noise Standards for Adjacent Mobile Noise Sources* (Table 3.12-4), establishes noise standards for mobile sources that may affect adjacent properties adversely.

Table 3.12-4. Noise Standards for Adjacent Mobile Noise Sources

Categories	Land Use	Ldn (or CNEL) dBA	
		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	—
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	65
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

Source: Appendix I of this EIR; San Bernardino County Development Code, Section 83.01.080

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; and, school playgrounds

[3] An exterior noise level of up to 65 dBA (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 dBA (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.

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 p.m. to 7 a.m.). In this way L_{dn} takes into account the lower tolerance of people for noise during nighttime periods.

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 p.m. to 10 a.m. and 10 decibels to sound levels in the night before 7 a.m. and after 10 p.m.

Section 83.01.080(e) Increases in Allowable Noise Levels. If the measured ambient level exceeds any of the first four noise limit categories in Subsection (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 Subsection (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

Section 83.01.080(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 3.12-3 shall be reduced by 5 dB(A).

Section 83.01.080(g). Exempt Noise. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays are considered exempt from San Bernardino County Development Code noise regulations.

Section 83.01.090(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 (0.2) inches per second measured at or beyond the lot line.

Section 83.01.090(c). Exempt Vibrations. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays are considered exempt from San Bernardino County Development Code vibration regulations.

3.12.4 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to noise and vibration, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, the Project would have a significant impact related to noise and vibration if it would:

- 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; or
- generate excessive groundborne vibration or groundborne noise levels; or
- 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.

Methodology

Noise generated by the Sienna Project will consist of: (1) short duration noise resulting from construction activities and; (2) noise during normal facility operations. Vibration from the Sienna Project would only result during construction. Construction activities would take place only during daytime hours. An evaluation of the Sienna Project's expected noise and vibration impacts compared to existing conditions was conducted. The methodology provided below is summarized from the Project-specific *Noise Study* (Appendix I of this EIR).

CONSTRUCTION AND DECOMMISSIONING NOISE

The FHWA's software program Roadway Construction Noise Model (RCNM) was used to estimate construction noise at nearby sensitive receptors. RCNM provides reference noise levels at the standard distance of 50 feet and estimates noise levels at nearby sensitive receivers based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise such as construction equipment). Although construction equipment may operate near the Sienna Project's property lines, construction equipment would be mobile throughout the day and would average a further distance from the property line over a typical construction day. This analysis conservatively assumes that in addition to the distance from the property line to each noise-sensitive receiver, the equipment would average at least 50 feet within the property lines from each noise-sensitive receiver. Experience and observations from similar projects were used for the assumptions of the loudest construction equipment for each activity (gen-tie and parcel construction) that would be operating simultaneously. For gen-tie and collector line

construction, this was assumed to be a crane, a pick-up truck, and an excavator operating simultaneously. For Project parcel construction, this was assumed to be an excavator, auger drill rig, loader, pneumatic tools, and a pickup truck operating simultaneously.

As San Bernardino County does not specify quantitative construction noise limits, for purposes of this analysis, the FTA Transit Noise and Vibration Impact Assessment criteria were used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period.

At the end of the Sienna Project's useful life (anticipated to be 30 years), the proposed solar facility and associated infrastructure would be decommissioned in accordance with then-current decommissioning practices. At this time, it is not possible to quantitatively evaluate potential noise that would result from Project decommissioning, due to the uncertainty of when decommissioning would occur and the technology or construction practices that would be available at that time. Therefore, based on current decommissioning practices and as a reasonable worst-case scenario, this analysis assumes that noise impacts generated during future decommissioning would be similar to noise impacts generated during the construction phase of the Sienna Project.

CONSTRUCTION TRAFFIC NOISE

Noise levels from existing traffic and with-construction traffic along Barstow Road, Northside Road, Rabbit Springs Road, State Route 247, and State Route 18 were estimated in terms of peak-hour L_{eq} using the FHWA Highway Traffic Noise Prediction Model (FHWA RD 77-108). The model calculations are based on traffic volumes from the traffic analysis prepared for the Sienna Project (Appendix J of this EIR). Vehicle daily trips generated by Project construction activities are estimated at 1,830 trips from workers and associated construction equipment during peak overlapping (Phases 3, 4, and 5) construction periods. A vehicle trip is defined as a one-direction vehicle movement. The total number of trips generated by the Project includes both inbound and outbound trips. The roadways were modeled conservatively using a straight-line analysis (i.e., assuming no attenuation from topography and a straight roadway). Loose soil was used as the default ground type; per FHWA's *Ground and Pavement Effects using FHWA's Traffic Noise Model 2.5* report, an example of loose soil ground can be dirt soil with sparse vegetation, similar to the agricultural setting and the single-family lots of the area (Appendix I of this EIR).

Impact Analysis

Impact 3.12-1 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?

SIENNA PROJECT

Construction - Less than Significant with Mitigation Incorporated. Construction of the Sienna Project would involve the use of noise-generating equipment during various phases, including transport of personnel and materials to the Sienna Project site, heavy machinery used in grading and clearing Project parcels, pneumatic post drivers to install foundation supports for solar array modules, as well as equipment used during construction of the proposed solar arrays, infrastructure improvements, and related structures. Emergency diesel generators may be used during construction activities. The Sienna Project would be constructed over a 12 to 24 month period.

Table 3.12-5 shows the noise levels associated with heavy construction equipment at a reference distance of 50 feet from the source. As shown in Table 3.12-5, noise levels at this distance can range from about 74 to 85 dBA, depending upon the types of equipment in operation at any given time and phase of construction.

Table 3.12-5. Typical Construction Equipment Noise Levels

Equipment	Acoustical Usage Factor (%)[1]	Measured L_{eq} (dBA at 50 feet)
Augur Drill Rig	20	84
Backhoe	40	78
Compactor (ground)	20	83
Concrete Mixer Truck	40	85
Crane	16	85
Dozer	40	82
Dump Truck	40	76
Excavator	40	81
Flat Bed Truck	40	74
Front End Loader	40	79
Generator	50	81
Grader	40	83
Pickup Truck	40	75
Pneumatic Tools	50	85
Roller	20	80
Scraper	40	84
Warning Horn	5	83
Welder/Torch	40	74

Source: Appendix I of this EIR

[1] The average fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Construction activities would be subject to San Bernardino County policies and regulations. Heavy construction activities would normally occur on-site between the hours of 7:00 a.m. and 7:00 p.m., which is between the acceptable hours for construction listed in the San Bernardino County General Plan (7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays). Additional hours may also be necessary to make up schedule deficiencies or to complete critical construction activities. As a result, some construction activities may be required to continue 24 hours per day, seven days per week. Activities that generate relatively low amounts of noise, such as refueling equipment, staging material for the following day's construction activities, quality assurance/control, and commissioning, may potentially occur between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and the hours of 9:00 p.m. and 8:00 a.m. on Saturdays.

Noise-sensitive receivers near Project construction include single-family residences throughout the Sienna Project area. These land uses would experience a temporary increase in noise during construction of the Sienna Project. The following subsections detail the impacts to noise-sensitive receivers in proximity to the Sienna Project parcels and the gen-tie corridor.

CONSTRUCTION AT SIENNA PROJECT PARCELS

Table 3.12-6 shows the estimated average noise level from construction at the Sienna Project parcels at the nearest noise-sensitive land uses using RCNM.

Table 3.12-6. Noise Levels at Various Distances from Construction at Sienna Project Parcels

Receiver	Distance from Construction (feet)[1]	Noise Level at Receptor (dBA L_{eq})
Reference Distance	50	82
Single-family residence along Meridian Road	100	79
Single-family residence along Sherman Way	150	75
Single-family residence along Midway Avenue	300	69
Single-family residence along Fern Road	600	63

Source: Appendix I of this EIR

[1] Distances include the distance from the Sienna Project parcel boundary to the receivers, plus 50 feet to account for construction equipment that be mobile throughout the day and would average a further distance (of approximately 50 feet) from the property line over a typical construction day.

Although construction noise levels from simultaneous heavy equipment operation would reach 82 dBA L_{eq} at the reference distance of 50 feet, due to the further distance between construction at the Sienna Project parcels and the nearest noise-sensitive receivers, construction noise levels under the conservative scenario analyzed would only reach as high as 79 dBA L_{eq}. This would be below FTA's construction noise threshold of 80 dBA L_{eq} (8-hour). Heavy construction activity involving pneumatic tools and graders also would not occur during nighttime hours.

GEN-TIE LINE CONSTRUCTION

The gen-tie corridor may be routed along Meridian Road, Haynes Road, Huff Road, Waalew Road, Tampadero Road, Northside Road, Granite Road, Harrod Road, Lincoln Avenue, and Locust Road. Residential uses are located along each of these roadways. For the purposes of this analysis, at the closest point of construction, the gen-tie routes would be located 50 feet from single-family residences. As modeled, the loudest anticipated construction noise from gen-tie construction would potentially involve the simultaneous use of an excavator and a crane. Table 3.12-7 shows construction noise levels at the nearest noise-sensitive receiver.

Table 3.12-7. Typical Construction Noise Levels from Gen-Tie Construction

Receiver	Distance from Construction (feet)	Noise Level at Receptor (dBA L_{eq})
Reference Distance	50	78
Single-family residence along Harrod Road	50	78

Source: Appendix I of this EIR

As shown in Table 3.12-7, simultaneous heavy equipment use during gen-tie construction would generate a noise level of up to 78 dBA L_{eq} when within 50 feet of single-family residences located along gen-tie routes. This would be below FTA's construction noise threshold of 80 dBA L_{eq} (8-hour).

Most gen-tie construction activities would occur further from nearby noise receptors, and would, therefore, result in lower noise level and heavy construction would not occur during nighttime hours.

Construction activities outside of acceptable hours would require a variance to conduct construction activities during those hours. Project construction may occur outside of the allowed construction hours (7:00 a.m. to 7:00 p.m., Monday through Saturday). Therefore, gen-tie construction noise would not exceed applicable thresholds.

CUMULATIVE CONSTRUCTION NOISE (SIENNA SOLAR FACILITY, BESS, AND GEN-TIE LINE)

As previously mentioned above, the Sienna Project components (solar facility, BESS, and gen-tie line) would be constructed over a 12 to 24 month period. This analysis makes a conservative assumption that construction at the Sienna Project parcels and the gen-tie would occur simultaneously. Concurrent construction activity at more than one parcel and the gen-tie line may expose nearby residences to cumulative noise impacts. This analysis of cumulative effects focuses on the effects of concurrent construction activities for the worst-case scenario (i.e., the closest residences which would be exposed to construction activities at multiple sites).

Some noise sensitive receivers located in Sienna Project area would be exposed to adjacent construction noise from gen-tie construction and more distant noise from Project parcels. Because of these residences' proximity to gen-tie construction (as close as 50 feet), cumulative noise levels are dominated by gen-tie construction noise. The residence on Lincoln Road (Receiver R-20 on Figure 3.12-2) is the closest noise-sensitive receiver within 50 feet of gen-tie construction that is also close to multiple parcel construction, including construction on parcels 100, 150, and 200 feet. This residence is representative of a reasonable conservative scenario for combined Project construction noise impacts, assuming concurrent construction of gen-tie corridor and the nearest Sienna Project parcels.

Table 3.12-8 provides the estimate of the cumulative construction noise levels for this scenario, which could reach 83 dBA L_{eq}. This would be above FTA's construction noise threshold of 80 dBA L_{eq} (8-hour). Therefore, cumulative construction noise would potentially exceed applicable FTA thresholds and is considered a significant impact. Implementation of Mitigation Measure NOI-1 would include limiting the most intensive excavating and earthmoving machinery to daytime hours, scheduling construction activity during daytime working hours, to the extent feasible, installation of temporary noise barriers and/or blankets with a minimum height of eight feet shall be deployed when construction activities are within 100 feet of a sensitive receiver. With implementation of Mitigation Measure NOI-1, construction noise levels would be reduced to a level that does not exceed the applicable FTA daytime construction noise threshold of 80 dBA Leq, and impacts would be reduced to a less than significant level with mitigation incorporated.

Table 3.12-8. Cumulative Construction Noise Levels for Worst-Case Scenario

Sienna Project Area	Distance from Construction (feet)	Noise Level at Receptor (dBA L_{eq})
Gen-Tie	50	78
Sienna Project Parcel	100	79
Sienna Project Parcel	150	75
Sienna Project Parcel	200	73
Cumulative Noise Level	**--**	**83**

Source: Appendix I of this EIR

CONSTRUCTION TRAFFIC NOISE

Construction of the Sienna Project would increase traffic noise offsite from commuting construction workers and from haul trucks bringing materials to and from the Sienna Project area. Project components would be constructed simultaneously over a 12 to 24 month period. This could expose nearby residences to cumulative noise from construction traffic. This analysis of cumulative effects focuses on the effects of concurrent construction traffic for the worst-case scenario (i.e., traffic generated by the peak construction period). Table 3.12-9 compares existing daily traffic volumes on nearby road segments to anticipated traffic generated by construction of the Sienna Project (Appendix I of this EIR).

Based on these traffic volumes, Table 3.12-10 shows modeled traffic noise levels at 50 feet from roadway centerlines under existing traffic conditions and with construction traffic. As shown in Table 3.12-10, construction traffic would increase noise levels by up to 1 dBA L_{eq} on Project utilized roadway segments. However, none of the traffic noise increases would exceed the applicable FTA criteria. Therefore, the short-term increase in traffic noise from Project construction would be less than significant.

Table 3.12-9. Estimated Existing and Construction Vehicle Trips

Roadway Segment	Speed Limit (mph)	Existing Daily Vehicle Trips	Construction Daily Vehicle Trips	Existing Plus Construction Daily Vehicle Trips
Barstow Road	55	2,920	1,030	3,950
Northside Road	45	700	170	870
Rabbit Springs Road	55	1,980	90	2,070
State Route 247	45	2,350	860	3,210
State Route 18	45	8,500	520	9,020

Source: Appendix I of this EIR

Table 3.12-10. Construction Traffic Noise

Roadway	From	To	Existing Traffic Noise (dBA L_{eq})	With-Construction Traffic Noise (dBA L_{eq})	Change in Traffic Noise (dBA L_{eq})	FTA Allowable Noise Exposure Increase (dBA L_{eq})
Barstow Road	Rabbit Springs Road	To the north	64	65	1	2
Northside Road	Barstow Road	To the east	56	57	1	3
Rabbit Springs Road	Barstow Road	To the east	62	63	1	2
State Route 247	Camp Rock Road	State Route 18	63	64	1	2
	State Route 18	Rabbit Springs Road	63	64	1	2
	Rabbit Springs Road	Lucerne Valley Cutoff	64	65	1	2

Roadway	From	To	Existing Traffic Noise (dBA L_{eq})	With-Construction Traffic Noise (dBA L_{eq})	Change in Traffic Noise (dBA L_{eq})	FTA Allowable Noise Exposure Increase (dBA L_{eq})
State Route 18	Lucerne Valley	State Route 247	70	70	<1	1

Source: Appendix I of this EIR

Operation - Less than Significant Impact. The following is an analysis of the Sienna Project's potential noise impacts during operation.

SOLAR ARRAY NOISE

Sensitive receivers in proximity to the Sienna Project parcels include rural single-family residences associated with agricultural properties. Noise levels from the Sienna Project's solar array operations (i.e., transformers and HVAC units associated with the inverters) are shown in Table 3.12-11, and noise level contours and receiver locations are shown in Figure 3.12-2.

As shown in Table 3.12-11, noise levels from the Sienna Project's solar array operations (i.e., transformers and HVAC units associated with the inverters) would reach up to 53 dBA L_{eq} at noise-sensitive land uses. These noise levels would be below San Bernardino County's daytime standards of 55 dBA L_{eq} (Table 3.12-3). Because the operation of the Sienna Project is dependent on sunlight, substantial operational noise would not be anticipated during nighttime hours. Therefore, operational noise impacts from the Sienna Project would not exceed County thresholds and are considered less than significant.

Table 3.12-11. Operational Noise Levels at Nearest Sensitive Receivers

Receiver	Receiver Description	Noise Level at Receiver (dBA L_{eq})	Exceed Threshold?
R1	Residence on agriculturally-zoned property	40	No
R2	Residence on agriculturally-zoned property	37	No
R3	Residence on agriculturally-zoned property	43	No
R4	Residence on agriculturally-zoned property	43	No
R5	Residence on agriculturally-zoned property	45	No
R6	Residence on agriculturally-zoned property	44	No
R7	Residence on agriculturally-zoned property	48	No
R8	Residence on agriculturally-zoned property	42	No
R9	Residence on agriculturally-zoned property	37	No
R10	Residence on agriculturally-zoned property	38	No
R11	Residence on agriculturally-zoned property	42	No
R12	Residence on agriculturally-zoned property	45	No
R13	Residence on agriculturally-zoned property	49	No
R14	Residence on agriculturally-zoned property	50	No
R15	Residence on agriculturally-zoned property	48	No

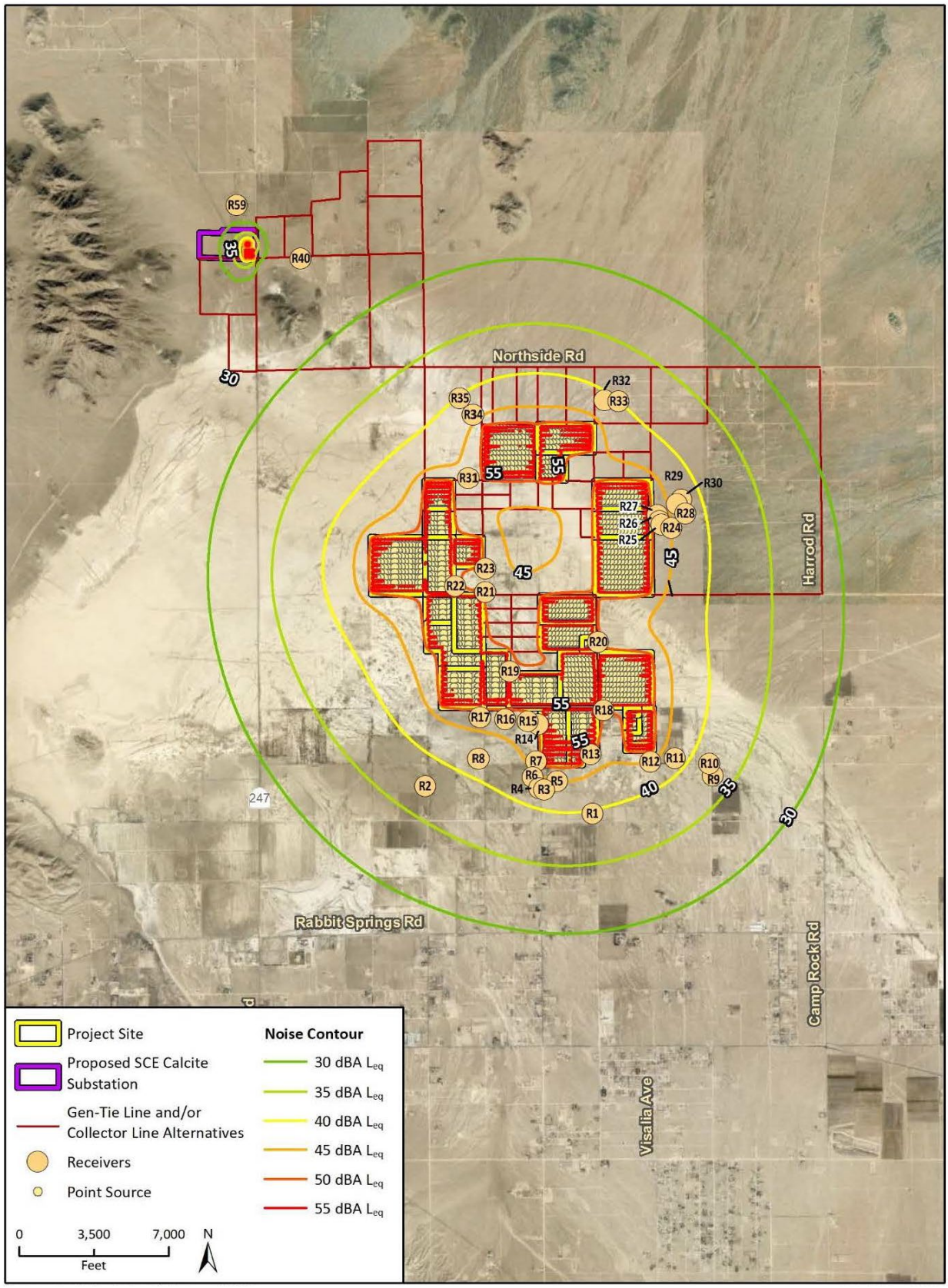
R16	Residence on agriculturally-zoned property	48	No
R17	Residence on agriculturally-zoned property	48	No
R18	Residence on agriculturally-zoned property	51	No
R19	Residence on agriculturally-zoned property	53	No
R20	Residence on agriculturally-zoned property	51	No
R21	Residence on agriculturally-zoned property	48	No
R22	Residence on agriculturally-zoned property	52	No
R23	Residence on agriculturally-zoned property	48	No
R24	Residence on agriculturally-zoned property	45	No
R25	Residence on agriculturally-zoned property	47	No
R26	Residence on agriculturally-zoned property	47	No
R27	Residence on agriculturally-zoned property	48	No
R28	Residence on agriculturally-zoned property	42	No
R29	Residence on agriculturally-zoned property	43	No
R30	Residence on agriculturally-zoned property	43	No
R31	Residence on agriculturally-zoned property	46	No
R32	Residence on agriculturally-zoned property	41	No
R33	Residence on agriculturally-zoned property	40	No
R34	Residence on agriculturally-zoned property	44	No
R35	Residence on agriculturally-zoned property	40	No
R36	Residence on agriculturally-zoned property	26	No
R37	Residence on agriculturally-zoned property	25	No

Source: Appendix I of this EIR

GEN-TIE NOISE

The gen-tie transmission line would generate noise from the corona affect, which is a phenomenon associated with the electrical ionization of the air that occurs near the surface of the energized conductor and suspension hardware due to very high electric field strength. This is audible power line noise that is generated from electric corona discharge, which is usually experienced as a random crackling or hissing sound. The corona effect on the gen-tie transmission line would generate a noise level of 20 dBA at a distance of 50 feet (Appendix I of this EIR). This is the approximate distance to the nearest residences from the gen-tie route. As observed during a site visit to existing solar farms, noise levels from these transmission lines were not detected over the existing ambient noise sources in the area (wind and vehicles) just outside of the solar farm properties (Appendix I of this EIR). Therefore, per site observations and the general low noise of transmissions lines, gen-tie noise would not exceed County's standard of 55 dBA L_{eq} at the nearest residences. This is considered a less than significant impact.

Figure 3.12-2. Receiver Locations and Operational Noise Contours



Source: Appendix I of this EIR

PV PANEL NOISE

PV panel noise would be associated with the tracking motors. These systems involve the panels being driven by motors to make brief, incremental adjustments to track the arc of the sun to maximize the solar effect. While these motors may generate noise of up to 44 dBA at 50 feet, these motors would operate briefly throughout an hour (e.g., several minutes per hour) as the sun moves west across the sky, and then would reset at night to face the eastern sky. By operating only several minutes per hour, the hourly noise level would be negligible at the nearest sensitive receivers. In addition, as observed during a site visit to the area and viewing of existing solar farms in the area, noise levels from PV panel tracking were not detected over the existing ambient noise sources in the area (wind, vehicles, planes, and trains) just outside of the solar farm properties. Therefore, noise levels from the PV panels would not exceed County thresholds and this is considered a less than significant impact.

OPERATIONAL TRAFFIC NOISE

Once the Sienna Project is complete, vehicle trips to the Sienna Project area would be associated with operations and maintenance of the solar facility. In addition, the Sienna Project would require relatively few nighttime activities, including deliveries, repairs, maintenance, office and administrative activities, security personnel, and emergency response.

Pursuant to the FTA criteria described in Table 3.12-10, a significant noise impact would occur if roadway noise would increase by more than 1 dBA for State Route 18, 2 dBA for State Route 247, Rabbit Springs Road, and Barstow Road, and 3 dBA for Northside Road traffic. With the increase in traffic volumes from Project operation, Project operation would increase noise by less than 1 dBA on each roadway. This increase would be imperceptible to the residents located near roadways and would not exceed applicable FTA criteria. Therefore, the Sienna Project's noise increases from operational traffic would not exceed applicable thresholds and this is considered a less than significant impact.

Decommissioning - Less than Significant with Mitigation Incorporated. At the end of the Project's useful life (anticipated to be 30 years), the solar facility and associated infrastructure may be decommissioned in accordance with then-current decommissioning practices. Given the Sienna Project's operating life cycle and distant timeframe for decommissioning activities, it is too speculative to quantify the potential noise impacts that could occur during decommissioning activities. On a rough basis, decommissioning would be similar to Project construction and be completed in 12-months. Assuming that the facility would be torn down and the materials present recycled or disposed, temporary noise associated with such actions are conservatively assumed to be similar to the noise levels that would result from Project construction. Implementation of Mitigation Measure NOI-1 would be implemented during decommissioning to ensure that noise levels do not exceed the applicable FTA daytime construction noise threshold of 80 dBA Leq. With implementation of Mitigation Measure NOI-1, potential noise impacts during decommissioning would be reduced to a less than significant level with mitigation incorporated.

Similar to the noise generated during construction of the Sienna Project, decommissioning activities would be conducted in accordance with all applicable requirements in effect at the time of Project termination. Potential future environmental effects associated with decommissioning of the Sienna Project would be addressed at the time decommissioning is proposed consistent with regulations in effect at that time. A final decommissioning plan, based on then-current technology, site conditions, and regulations, would be prepared prior to actual decommissioning.

CALCITE SUBSTATION

Construction - Less than Significant with Mitigation Incorporated. According to Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the construction spread for the proposed Calcite Substation would require a small crew, using equipment capable of generating noise at levels noise up to 84 dBA Leq at 50 feet. Construction of the proposed Calcite Substation would not be subject to community noise standards in the County Development Code. However, County policies require implementation of acceptable practices to minimize the effects of adverse construction noise.

MM NOI-1a (Construction Restrictions) as described in Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR* and provided below would require the Applicant to control noise in a manner consistent with the County Development Code, and MM NOI-1b (Public Notification Process) and MM NOI-1c (Noise Complaint Process) would require implementation of best practices for engaging the surrounding community to avoid potential noise complaints. With these measures, the impact of construction noise relative to applicable community noise standards would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with a temporary increase in the ambient noise level in the project site vicinity during construction. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Operation - Less than Significant with Mitigation Incorporated. According to Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), routine operation of the proposed Calcite Substation would be unstaffed, and electrical equipment within the substation would be remotely monitored and controlled by SCE. Maintenance activities would occur as needed for inspections, repairs and replacements, and for access road maintenance and vegetation management. Equipment at the substation would include 220 kV buses, circuit breakers, disconnect switches, and an equipment room. Noise sources would include HVAC systems and corona discharge noise. The equipment at the proposed substation could include cooling systems that, if necessary, typically could generate 81 dBA at a distance of 10 feet, which would cause over 45 dBA Leq for locations within 900 feet of the source. Locations beyond 900 feet would not be likely to exceed 45 dBA Leq.

MM NOI-1d (Operational Noise Performance Standard) as described in Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR* and provided below is recommended to prevent installing noise-generating components at the proposed Calcite Substation within 1,000 feet of the property line of a residential use and to ensure that all stationary sources of noise comply with the property-line standard of 45 dBA Leq at all times. With mitigation, the impact relative to applicable community noise standards would not be significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with an increase in the ambient noise level in the project site vicinity during operation. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

NOI-1 **Employ Noise-Reducing Measures During Construction.** The construction contractor shall employ measures to minimize and reduce construction noise. Noise reduction measures that will be implemented include, but are not limited to, the following:

- Electrically powered equipment instead of internal combustion equipment shall be used where feasible.
- Limit use of intensive excavating and earthmoving machinery to daytime hours.
- To the extent feasible, schedule construction activity during daytime working hours.
- Temporary noise barriers and/or blankets with a minimum height of eight feet shall be deployed when construction activities are within 100 feet of a sensitive receiver during nighttime or cumulative construction activities. The temporary noise barriers and/or blankets shall be constructed of material with a minimum weight of two pounds per square foot with no gaps or perforations and extend 25 feet from equipment activity area to ensure line of sight is blocked at sensitive receiver locations. Temporary noise barriers and/or blankets may be constructed of, but not limited to, 5/8-inch plywood, 5/8-inch oriented strand board, and hay bales.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the proposed Calcite Substation:

MM NOI-1a **Construction Restrictions.** Heavy equipment operation relating to any Project features shall be restricted to the hours between 7:00 a.m. and 7:00 p.m. on Monday through Saturday, and not allowed on Sundays or federal holidays, unless a special approval has been granted by the County of San Bernardino.

MM NOI-1b **Public Notification Process.** At least 15 days prior to the start of ground disturbance, the Project owner shall notify all residents within 1 mile of the Project site and the linear facilities, by mail or by other effective means, of the commencement of Project construction. Notification materials shall identify a mechanism for residents to register complaints with the appropriate jurisdiction if construction noise levels are overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification. At the same time, the Project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the Project. If the telephone is not staffed 24 hours a day, the Project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the Project site during construction where it is visible to passersby. This telephone number shall be maintained until the Project has been commercially operational for at least one year.

MM NOI-1c **Noise Complaint Process.** Throughout construction and operation of the Project, the Project owner shall document, investigate, evaluate, and attempt to resolve all Project-related noise complaints. The Project owner or authorized agent shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.

MM NOI-1d **Operational Noise Performance Standard.** The Project design and implementation shall include appropriate noise control features adequate to ensure that the operation of the Project will not cause the noise levels due to plant operation alone to exceed 45 dBA Leq measured at a property boundary of any inhabited dwelling [County Development Code Chapter 83.01.080(c)]. All step-up transformers and power inverters, and air handling units associated with the energy storage system shall be located, enclosed, or shielded, if necessary, to meet this standard. No new pure-tone components shall be caused by the power inverters or transformers associated with the Project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. To achieve this standard, the final Project design in site plans shall avoid placing stationary sources of noise within 1,000 feet of residential property boundaries. If the final design of the Project includes any stationary source of noise, including the battery storage system, heating, ventilation and air conditioners, inverters, or transformers within 1,000 feet of a residential property boundary, then a final noise study shall be submitted to the satisfaction of the appropriate jurisdiction demonstrating that noise will not exceed 45 dBA Leq at nearby property boundaries of any inhabited dwelling.

Level of Significance After Mitigation

SIENNA PROJECT

With implementation of Mitigation Measure NOI-1, construction noise levels would be reduced to a level that does not exceed the applicable FTA daytime construction noise threshold of 80 dBA Leq, and impacts would be reduced to a less than significant level with mitigation incorporated.

CALCITE SUBSTATION

With implementation of MM NOI-1a, NOI-1b, NOI-1c, and NOI-1d Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR*, the proposed Calcite Substation would not generate noise levels in excess of applicable community noise standards.

Impact 3.12-2 Would the Project generate excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact.

SIENNA PROJECT

Construction - Less than Significant Impact. Construction at the Sienna Project parcels may require post driving, which has the potential to result in temporary vibration impacts on structures and humans. Based on the potential parcel locations, post driving activities could occur within 100 feet of the nearest

off-site residential structure. It was conservatively assumed that an impact pile driver would be used for the Sienna Project.

It should be noted that an impact pile driver as considered by Caltrans is larger than the type of equipment that would be used to drill in posts for the solar panels (e.g., an impact pile driver on the scale analyzed by Caltrans would typically be used for large bridge concrete footings, etc.). Other construction activities are less intensive than pile driving and would have lower PPV than pile driving. Therefore, vibration levels from pile driving are considered a conservative scenario for construction at the Sienna Project parcels. The following equation was used to calculate PPV at sensitive receptors (Appendix I of EIR):

$$\textbf{PPV Impact Pile Driver} = PPV_{Ref}\,(25/D)^{n} \times (E_{equip}/E_{Ref})0.5 \text{ (in/sec)}$$

Where:

PPV_{Ref} = 0.65 in/sec for a reference pile driver at 25 feet

D = distance from pile driver to the receiver in feet

^{n} = 1.1 is a value related to the vibration attenuation rate through ground

E_{equip} is rated energy of impact pile driver in ft-lbs

E_{Ref} is 36,000 ft-lb (rated energy of reference pile driver)

Using the referenced formula and an assumed 2,400 ft-lb rated energy for the post driver, the PPV at the nearest residential structure would be 0.091 in/sec PPV, which would be below the County's vibration standard of 0.2 in/sec PPV. Therefore, vibration associated with construction of the Sienna Project would not exceed County thresholds and impacts are considered less than significant.

GEN-TIE CONSTRUCTION

Gen-tie construction may require the use of an auger drill rig that has the potential to result in temporary vibration impacts on structures and humans. Based on the potential gen-tie locations, auger drilling activities could occur within 50 feet of the nearest off-site residential structure. Other than use of an auger drill rig, other construction activities at the gen-tie corridors are less intensive than auger drill rig and would have lower PPV than the auger drill rig. Therefore, vibration levels from the auger drill rig are considered worst case for the gen-tie construction. The following equation was used to calculate PPV at sensitive receptors (Appendix I of this EIR):

$$\textbf{PPV Equipment} = PPV_{Ref}\,(25/D)^{n} \text{ (in/sec)}$$

Where:

PPV_{Ref} = Equipment reference vibration level at 25 feet

D = distance from equipment to the receiver in feet

^{n} = 1.1 is a value related to the vibration attenuation rate through ground

Caltrans vibration guidelines do not provide vibration levels specifically for an auger drill rig; however, the guidelines do provide vibration levels for caisson drilling of 0.089 in/sec PPV. A caisson drill would typically drill a much larger hole than the type of bore performed for a solar foundation post (e.g., a caisson drill would be used to drill a bridge pier). Although a caisson drill is a more intensive activity that would result in greater vibration than an auger drill, it was used as a conservative reference for this analysis. Using the referenced formula, the PPV at the residential structure would be 0.031 in/sec PPV, which would be below the County's vibration standard of 0.2 in/sec PPV. In addition, heavy

construction activity involving drilling would not occur during nighttime hours. Therefore, vibration associated with construction of the Sienna Project would not exceed County thresholds. Impacts are considered less than significant.

Operation - Less than Significant Impact. Once constructed, the proposed PV facility would not have any components that would generate vibration levels. Thus, operation of the Sienna Project would not result in any vibration and would not exceed County thresholds. No impact would occur.

Decommissioning - Less than Significant Impact. 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 Sienna Project would also be required for Project decommissioning, it is reasonable 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 Sienna Project vicinity, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. According to Section 4.12, Noise and Vibration, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), during construction of the proposed Calcite Substation, use of heavy-duty equipment would cause vibration levels that could be perceptible within about 50 feet of construction equipment. No residential structures would be near enough to the proposed Calcite Substation to experience excessive construction vibration from moving equipment or vehicles. Impacts from vibration would be localized and temporary (i.e., infrequently recurring during the limited duration of construction near residences), and, therefore, would not be excessive, resulting in a less than significant impact.

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with groundborne vibration. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.12-3 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?

SIENNA PROJECT

No Impact. The Sienna Project site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Sienna Project site is the Holiday Ranch Airport, a privately-owned airport, located approximately 10 miles northwest of the Sienna Project site. The nearest public airports are Apple Valley County Airport and Big Bear City Airport located approximately 15 miles northwest and south of the Sienna Project site, respectively. Therefore, the Sienna Project would not expose people residing or working in the Project area to excessive noise levels and no impact would occur.

CALCITE SUBSTATION

No Impact. The Calcite Substation site is not located within 2 miles of a public airport or a public use airport. The nearest airport to the Calcite Substation site is the Holiday Ranch Airport, a privately-owned airport, located approximately 7 miles northwest of the Calcite Substation site. The nearest public airport is the Apple Valley County Airport located approximately 13.50 miles northwest of the Calcite Substation site. Therefore, the proposed Calcite Substation would not expose people residing or working in the Project area to excessive noise levels and no impact would occur.

The *Stagecoach Solar Project Draft EIR* did not identify an impact associated with excessive noise levels due to proximity of an airport. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Level of Significance After Mitigation

SIENNA PROJECT

No impact would occur. No mitigation measures are required.

CALCITE SUBSTATION

No impact would occur. No mitigation measures are required.

3.13 Transportation

The section identifies the existing transportation infrastructure in the Project area, analyzes potential impacts of the proposed Project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed Project, where applicable. The information for this section is summarized from a Project-specific *Traffic Assessment* prepared for the Sienna Project (Appendix L of this EIR) prepared by GHD and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.13.1 Existing Conditions

Surrounding Roadways

Sienna Project

Roadways that provide primary circulation in the vicinity of the Sienna Project area include Barstow Road (State Route 247), State Route 18, Rabbit Springs Road and Camp Rock Road.

State Route 247 (Barstow Road). State Route (SR)-247 (Barstow Road) serves as a north-south route in San Bernardino County. This two- to four-lane highway passes through the Mojave Desert, connecting State Route 62 in Yucca Valley to Interstate (I-) 15 in Barstow. Near I-15, SR-247 is a four-lane facility with the remaining two-lane route extending through the Sienna Project study area and beyond (Appendix L of this EIR).

According to 2019 Traffic Volumes on the California State Highways, SR-247 annual average daily traffic (AADT) ranges between 2,300 and 2,900. Higher volumes are found near Barstow; however, this area is outside of the Sienna Project study area.

State Route 18. SR18 is an east-west state highway primarily located in western San Bernardino County. This highway serves as a primary route into the San Bernardino Mountains, both from the Riverside-San Bernardino metropolitan area from the south and the Mojave Desert from the north. SR-18 extends between SR-210 in San Bernardino and SR-138 in Llano (Los Angeles County). Near the Sienna Project study area, AADT is estimated to be 9,000 (Appendix L of this EIR). SR-18 is generally a two-lane undivided highway with limited and/or no shoulders.

Rabbit Springs Road. Rabbit Springs Road is an east-west oriented facility that provides access to several properties, including educational, industrial and agricultural. Currently, Rabbit Springs Road extends from SR-18 and Kendall Road in the west connecting to Camp Rock Road south and east of the Sienna Project study area. Rabbit Springs Road is an undivided, two-lane road with limited and/or no shoulders (Appendix L of this EIR).

Camp Rock Road. Camp Rock Road is a two-lane undivided north-south local street. This roadway extends from SR-18 northward to Northside Road. North of Northside Road, Camp Rock Road continues as a dirt road where it terminates as SR-40 in Daggett, which is just east of Barstow. Camp Rock Road bisects the proposed solar facility and will provide access to the Sienna Project site (Appendix L of this EIR).

Calcite Substation

According to the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), SR-247 would provide direct access to the Calcite Substation site (California State Lands Commission 2021). SR-247 bisects the Calcite Substation site.

Project Site Access

Sienna Project

Given the existing grid network of paved and semi-paved streets providing access to multiple development parcels, access to the Sienna Project area is provided by a variety of primary and secondary driveways. Access to Sienna Project driveways would be gained via Barstow Road, Camp Rock Road, Old Woman Springs Road to parcels located in the southern portion of the development area.

Calcite Substation

Rural residential roads that provide local access to the eastern portion of the Calcite Substation site and would run adjacent to the Calcite Substation site include Haynes Road and Fern Road (California State Lands Commission 2021).

Existing Traffic Data

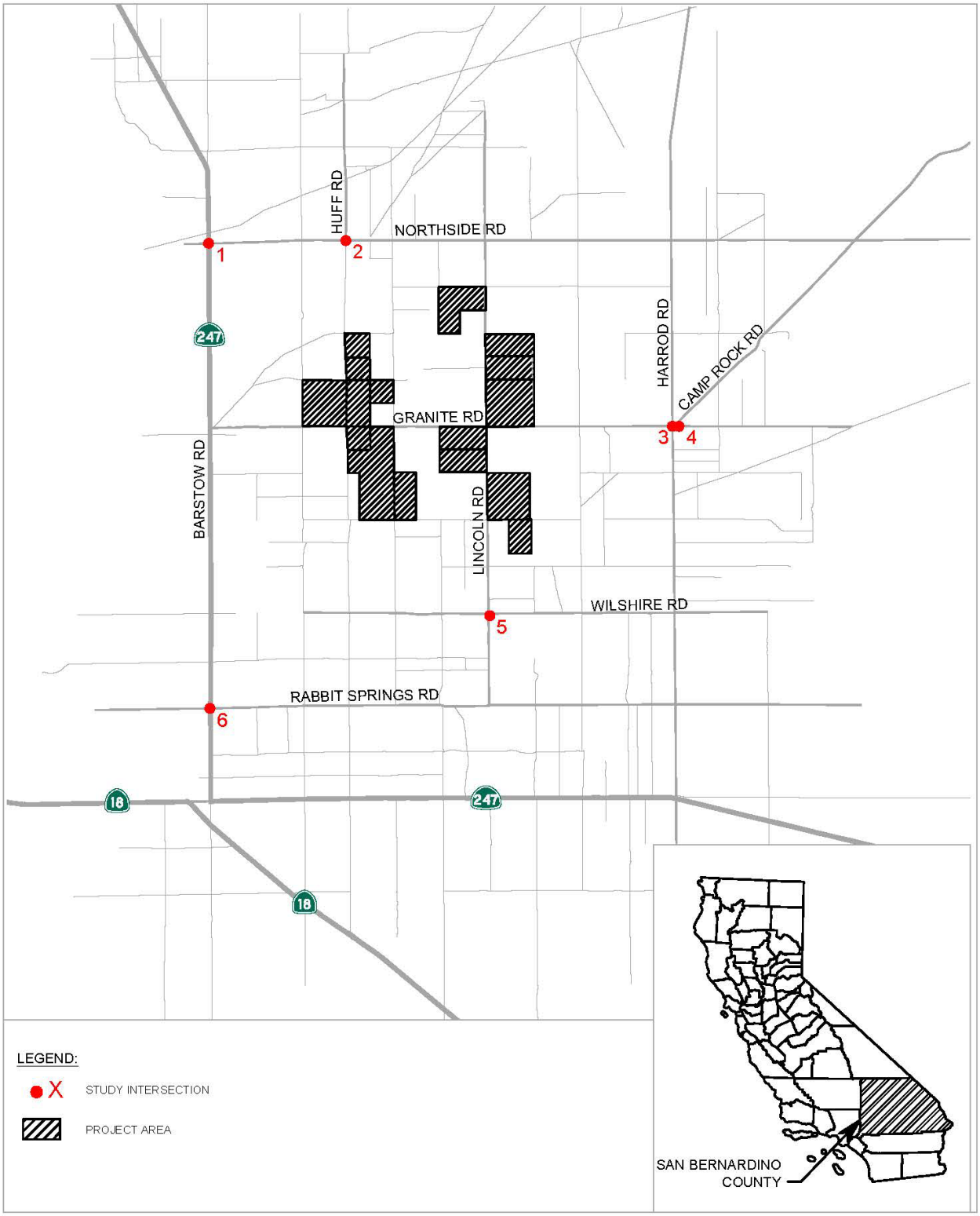
Sienna Project

Traffic counts were conducted while school was not in session; however, local school peak hour volumes from the Lucerne Valley Elementary and Middle Schools (10788 Barstow Road) with 440 students were added to existing volume data to develop baseline conditions.[1] Peak period (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) intersection turning movement counts encompassing the Sienna Project site were conducted on July 20, 2021, under favorable weather and traffic operating conditions. The following intersections were analyzed for peak hour operating conditions (Figure 3.13-1):

- Northside Road/Barstow Road (SR-247)
- Northside Road/Huff Road
- Granite Road/Harrod Road
- Granite Road/Camp Rock Road
- Wilshire Road/Lincoln Road
- Rabbit Springs Road/Barstow Road (SR-247)

[1] Institute of Traffic Engineers (ITE) Trip Generation was utilized to calculate school trips for Daily, AM and PM peak periods.

Figure 3.13-1. Traffic Study Area Intersections



Source: Appendix L of this EIR

Table 3.13-1 shows the existing intersection operations for the above-mentioned intersections. As shown in Table 3.13-1, all study area intersections currently operate at acceptable (LOS) B conditions or better during the AM and or PM peak hour conditions. LOS is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection of roadway segment representing progressively worsening traffic conditions.

Table 3.13-1. Existing Intersection Operations

#	Intersection	Control Type [1, 2]	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met? [3]	Delay	LOS	Warrant Met? [3]
1	Northside Road/Barstow Road (SR-247)	TWSC	C	9.7	A	No	10.0	A	No
2	Northside Road/Huff Road	Yield	C	8.8	A	No	5.2	A	No
3	Granite Road/Harrod Road	TWSC	C	8.7	A	No	9.6	A	No
4	Granite Road/Camp Rock Road	TWSC	C	8.9	A	No	9.0	A	No
5	Wilshire Road/Lincoln Road	Yield	C	7.3	A	No	8.0	A	No
6	Rabbit Springs Road/Barstow Road (SR-247)	TWSC	C	11.6	B	No	12.6	B	No

Source: Appendix L of this EIR
Notes:
[1] AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout
[2] LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
[3] Warrant = Based on California Manual on Uniform Traffic Control Devices (MUTCD) Warrant 3

In addition to intersection analyses, average daily traffic (ADT) volumes were collected on the following roadway segments:

- Barstow Road, north of Rabbit Springs Road
- Northside Road, east of Barstow Road
- Rabbit Springs Road, east of Barstow Road
- State Route 247: Camp Rock Road to SR-18
- State Route 247: SR-18 to Rabbit Springs Road
- State Route 247: Rabbit Springs Road to Lucerne Valley Cutoff Road
- State Route 18: Lucerne Valley, Jct. SR-247

Table 3.13-2 shows the existing conditions for the above-mentioned roadway segments. As shown in Table 3.13-2, all study area roadway segments are currently operating at acceptable LOS A conditions.

Table 3.13-2. Existing Roadway Segment Level of Service Conditions

#	Roadway	Location	Facility Type (Number of Lanes)	Target LOS	Average Daily Traffic	LOS
1	Barstow Road	North of Rabbit Springs Road	Two-lane collector	C	2,920	A
2	Northside Road	East of Barstow Road	Two-lane collector	C	700	A
3	Rabbit Springs Road	East of Barstow Road	Two-lane collector	C	1,980	A
4	SR-247	Camp Rock Road to SR-18	Two-lane Highway	C	2,200	A
5	SR-247	SR-18 to Rabbit Springs Road	Two-lane Highway	C	2,100	A
6	SR-247	Rabbit Springs Road to Lucerne Valley Cutoff Road	Two-lane Highway	C	2,350	A
7	SR-18	Lucerne Valley, Jct. SR-247	Two-lane Highway	C	8,500	A

Source: Appendix L of this EIR
Notes:
No LTL arterials without left turn lanes (LTL) at most major intersections (within study area).
Daily volume to capacity on roadways does not supplant the need to perform peak-hour HCM-based analysis.

Calcite Substation

As described in Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, Spinel Street is an existing roadway in the vicinity of the Calcite Substation site. This roadway is classified as a 2-lane unpaved roadway which had an ADT of 152 during the year of 2020 (California State Lands Commission 2021).

Public Transit

Sienna Project

Public transportation in the immediate vicinity of the Sienna Project area is provided by the Victor Valley Transit Authority (VVTA), which is a bus transit operator that serves Adelanto, Apple Valley, Hesperia, and Victorville in western San Bernardino County. VVTA has 20 fixed bus routes that circulate through these areas as well as the BV Link that runs between Barstow and Victorville and the National Training Center (NTC) Commuter route that serves the Fort Irwin NTC. To the south of the Sienna Project area, VVTA operates Route 23, the Lucerne Valley line, which runs along Central Road, Bear Valley Road, SR-18, and SR-247 between Apple Valley and Lucerne Valley (VVTA 2022).

Calcite Substation

According to Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, public transportation in the Calcite Substation area is provided by the VVTA. In the immediate vicinity of the Calcite Substation site, VVTA operates Route 23, the Lucerne Valley line, which runs along Central Road, Bear Valley Road, SR-18, and SR-247 between Apple Valley and Lucerne Valley (VVTA 2022).

Pedestrian and Bicycle Facilities

Sienna Project

According to Policy Map TM-4 Bicycle & Pedestrian Planning of the County's Policy Plan[2], there are no pedestrian or bicycle facilities along the roadways in the Sienna Project area.

Calcite Substation

According to Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, the roadways in the vicinity of the Calcite Substation do not contain dedicated bike lanes. However, bicycles are allowed on SR-247 and SR-18. Due to the rural nature of the local roadways affected by the proposed Calcite Substation, bicyclists either share the roadway with vehicular traffic or use the shoulder.

No sidewalks exist along the roadways in the Calcite Substation area. Pedestrians on these roadways are expected to walk along the shoulder or the edge of the roadway.

3.13.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Project.

State

California Traffic Operations Standards

The Caltrans (2002) *Guide for the Preparation of Traffic Impact Studies* includes criteria for evaluating the effects of land use development and changes to the circulation system on state highways. Caltrans maintains a target LOS at the transition between LOS C and LOS D for freeway facilities.

Senate Bill 743

California Senate Bill (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 GHG emissions, the creation of multimodal networks, and the promotion of a mix of land uses, as measured by vehicle miles traveled (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 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.

---

[2] San Bernardino Countywide Plan, TM-4 "Bicycle & Pedestrian Planning." Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=fcb9bc427d2a4c5a981f97547a0e3688. Accessed October 19, 2022.

In addition, CEQA Guidelines Section 15064.3(c) states that the provisions of Section 15064.3 shall apply statewide beginning on July 1, 2020. 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 County Congestion Management Program

The passage of Proposition 111 in 1990 established a process for each metropolitan county in California to prepare a Congestion Management Plan (CMP). The San Bernardino County Transportation Authority (SBCTA), formerly known as 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, SBCTA is responsible for planning and managing vehicular congestion and coordinating regional transportation policies.

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 SBCTA 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.

Local

San Bernardino Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning, of this EIR. The following policies from the Transportation and Mobility Element are applicable to the Project:

Policy TM-1.1: Roadway level of service (LOS). We require our roadways to be built to achieve the following minimum level of service standards during peak commute periods (typically 7:00-9:00 AM and 4:00-6:00 PM on a weekday):

- LOS D in the Valley Region
- LOS D in the Mountain Region
- LOS C in the North and East Desert Regions

Policy TM-1.7: Fair share contributions. We require new development to pay its fair share contribution toward off-site transportation improvements.

Policy TM-1.8: **Emergency access**. When considering new roadway improvement proposals for the CIP or RTP, we consider the provision of adequate emergency access routes along with capacity expansion in unincorporated areas. Among access route improvements, we prioritize those that contribute some funding through a local area funding and financing mechanism.

Policy TM-2.3: **Concurrent improvements.** We require new development to mitigate project transportation impacts no later than prior to occupancy of the development to ensure transportation improvements are delivered concurrent with future development.

Policy TM-5.6: Unincorporated truck routes. We establish local truck routes in unincorporated areas to efficiently funnel truck traffic to freeways while minimizing impacts on residents. We establish routes where trucks are prohibited in unincorporated environmental justice focus areas and to avoid overlaps or conflicts with safe routes to schools.

San Bernardino County Transportation Impact Study Guidelines

The County's Transportation Impact Study Guidelines (TISG), dated July 9, 2019, provides a guide in assessing a proposed development project's potential transportation impacts (County of San Bernardino Public Works Department 2019). As stated in 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 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 General 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
    - 79,00 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

3.13.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to traffic and transportation, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to traffic and transportation are considered significant if the Project would:

- conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities; or
- conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); or
- substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- result in inadequate emergency access.

Impact Analysis

Impact 3.13-1 Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

SIENNA PROJECT

Construction - Less than Significant Impact. Construction traffic generated by the Sienna Project would occur primarily as a result of construction workers traveling to and from the Sienna Project site. Traffic would also be generated by heavy equipment. However, once the vehicles are delivered to the site, they will generally stay on the site and will not generate daily trips. Vehicle traffic would also be generated by construction material deliveries.

Trip Generation

As shown in Table 3.13-3, detailed trip generation was estimated for the Sienna Project's six construction phases: 1) Site Preparation; 2) Grading and Earthwork; 3) Foundations; 4) Steel Installation; 5) Electrical Installation; and 6) Collector Line Installation. Each phase describes off-road equipment, construction vehicle types, number of units, phase duration, daily hours and daily mileage per vehicle. Types of vehicles include passenger (commuters), and truck type (pickup, water, flatbed, gravel, concreted, delivery trucks, etc.). Because the six phases are staggered and overlap (i.e., they will not occur simultaneously), the traffic assessment assumes the worst-case construction phases (based upon vehicle/truck trips) that could potentially occur at the same time (based upon the Sienna Project Schedule provided by the applicant). It was determined that the combination of Phases 3, 4 and 5 would make up the most trips that could potentially overlap, resulting in a total of 860 construction workers and associated construction equipment contributing trips at one time.

In addition, a passenger car equivalent (PCE) was applied to vehicle type. A PCE is a metric used in transportation engineering to assess traffic-flow rate on a highway. A PCE is essentially the impact that a mode of transport has on highway variable (e.g., headway, speed, density, etc.) compared to a single passenger car. For this analysis, a conservative PCE of 2.0 was applied to account for large

trucks. This is consistent with the methodology presented in *Highway Capacity Manual* (HCM) (6th Edition).

Trip generation for Sienna Project construction was based on types of vehicles used and number of workers that are anticipated to report to the job site. Based on San Bernadino County Ordinance 83.01.080 (Noise); "Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., (except Sundays and Federal holidays)" are considered exempt from County noise regulations. Therefore, construction may occur during the a.m. peak (7:00 – 9:00 a.m.) and the p.m. peak (4:00 to 6:00 p.m.) commute periods, even though construction activities will occur throughout the day.

In order to simulate the worst-case trip generation scenario, construction workers were conservatively assumed to arrive in the AM peak hour and leave during the PM peak hour each weekday. Although some construction workers may carpool, this is not assumed (i.e., each worker will drive alone to/from work). Therefore, a PCE of 860 construction workers are anticipated to commute to and from the proposed Sienna Project area during phases 3 through 5 (worst-case scenario). Table 3.13-3 shows the Sienna Project's projected construction daily trips.

As shown in Table 3.13-3, a maximum of 1,830 daily trips (including PCE factor) are forecasted to be generated for short-term construction purposes during phases 3, 4, and 5 of construction. This would include short-term AM and PM peak hour trips of 813 in and out, respectively.

Trip Distribution

The Sienna Project is expected to "generate" and "attract" construction-related trips throughout the County and from other locations throughout the region. However, the majority of Project trips will be to/from the west and east on SR-18. Remaining Sienna Project trips are expected to be to/from SR-247 via northern and southern origins. Based upon existing traffic flow patterns, geographical location of Sienna Project area, location of lodging and/or employment bases, and previous traffic impact studies, these considerations resulted in a distribution of trip types for the Sienna Project throughout the study area, as follows (see Appendix L of this EIR for details):

- 50 percent to/from SR-18 (Old Woman Springs Road) west of SR-247
- 30 percent to/from SR-18 south of SR-247
- 15 percent to/from SR-247 (Barstow Road) north of Rabbit Springs Road
- 5 percent to/from SR-247 (Old Woman Springs Road) east of Granite Road

This page is intentionally blank.

Table 3.13-3. Projected Daily Construction Trips

Construction Phase (and Duration)	Vehicle Type	#	PCE	Vehicle Trip Generation							PCE Trip Generation						
				ADT	AM Peak Hour			PM Peak Hour			ADT	AM Peak Hour			PM Peak Hour		
					In	Out	T	In	Out	T		In	Out	T	In	Out	T
Phase 1: Site Preparation (79 days)	Passenger (Worker)	100	1.0	200	100	—	100	—	100	100	200	100	—	100	—	100	100
	Passenger (Pick-up Truck)	5	1.0	10	5	—	5	—	5	5	10	5	—	5	—	5	5
	Large Truck (Water, Flatbed, etc.)	25	2.0	50	2	2	4	2	2	4	100	4	4	8	4	4	8
	Subtotal	**130**	**—**	**260**	**107**	**2**	**109**	**2**	**107**	**109**	**310**	**109**	**4**	**113**	**4**	**109**	**113**
Phase 2: Grading and Earthwork (79 days)	Passenger (Worker)	400	1.0	800	400	—	400	—	400	400	800	400	—	400	—	400	400
	Passenger (Pick-up Truck)	5	1.0	10	5	—	5	—	5	5	10	5	—	5	—	5	5
	Large Truck (Water, Flatbed, etc.)	25	2.0	50	4	4	8	4	4	8	100	8	8	16	8	8	16
	Subtotal	**430**	**—**	**860**	**409**	**4**	**413**	**4**	**409**	**413**	**910**	**413**	**8**	**421**	**8**	**413**	**421**
Phases 3, 4, and 5: Foundations, Steel, Electrical	Passenger (Worker)	800	1.0	1,600	800	—	800	—	800	800	1,600	800	—	800	—	800	800
	Passenger (Pick-up Truck)	5	1.0	10	5	—	5	—	5	5	10	5	—	5	—	5	5
	Large Truck (Water, Flatbed, etc.)	55	2.0	110	4	4	8	4	4	8	220	8	8	16	8	8	16
	Subtotal	**860**	**—**	**1,720**	**809**	**4**	**413**	**4**	**809**	**413**	**1,830**	**813**	**8**	**821**	**8**	**813**	**821**
Phase 6: Collector Line Installation	Passenger (Worker)	75	1.0	150	75	—	75	—	75	75	150	75	—	75	—	75	75
	Passenger (Pick-up Truck)	5	1.0	10	5	—	5	—	5	5	10	5	—	5	—	5	5

Construction Phase (and Duration)	Vehicle Type	#	PCE	Vehicle Trip Generation							PCE Trip Generation						
				ADT	AM Peak Hour			PM Peak Hour			ADT	AM Peak Hour			PM Peak Hour		
					In	Out	T	In	Out	T		In	Out	T	In	Out	T
	Large Truck (Water, Flatbed, etc.)	15	2.0	30	4	**4**	8	4	4	8	60	8	8	16	8	8	16
	Subtotal	**95**	**—**	**190**	**84**	**4**	**88**	**4**	**84**	**88**	**220**	**88**	**8**	**96**	**8**	**88**	**96**
Total		**—**	**—**	**3,030**	**1,409**	**14**	**1,423**	**14**	**1,409**	**1,423**	**3,270**	**1,423**	**28**	**1,451**	**28**	**1,423**	**1,451**

Source: Appendix L of this EIR

Intersection Operations

Existing plus Sienna Project weekday AM and PM peak hour intersection traffic operations were quantified by superimposing traffic volumes generated by the proposed Sienna Project onto Existing conditions (Table 3.13-1). Table 3.13-4 shows the summary of the Existing plus Project roadway analysis and LOS conditions.

Table 3.13-4. Existing Plus Project Intersection Operations

#	Intersection	Control Type [1, 2]	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met? [3]	Delay	LOS	Warrant Met? [3]
1	Northside Road/Barstow Road (SR-247)	TWSC	C	11.2	B	No	10.0	B	No
2	Northside Road/Huff Road	Yield	C	9.4	A	No	7.6	A	No
3	Granite Road/Harrod Road	TWSC	C	8.6	A	No	9.5	A	No
4	Granite Road/Camp Rock Road	TWSC	C	9.0	A	No	9.1	A	No
5	Wilshire Road/Lincoln Road	Yield	C	7.8	A	No	7.5	A	No
6	**Rabbit Springs Road/Barstow Road (SR-247) [4]**	**TWSC**	**C**	**21.8**	**C**	**No**	**26.1**	**D**	**No**
7	Access Road/Barstow Road	TWSC	C	12.0	B	No	24.6	C	No

Source: Appendix L of this EIR
Notes: [1] TWSC = Two Way Stop Control
[2] LOS = Delay based on worst minor street approach for TWSC and Yield intersections
[3] Warrant = Based on California MUTCD Warrant 3 (70% Factor)
[4] Bold = Unacceptable Conditions

As shown in Table 3.13-4, all study area intersections are forecasted to operate at acceptable LOS C conditions or better under Existing plus Project conditions scenario with one exception. The Rabbit Springs Road/Barstow Road intersection is projected to operate at LOS D during the PM peak hour. Given that the County's goal for LOS in unincorporated areas is LOS C, this is considered a temporary impact. However, this intersection is not anticipated to meet Warrant 3 (70%) under any scenario. Furthermore, construction of the proposed Sienna Project would last approximately 12 to 24 months, after which construction-related traffic impacts would cease. Therefore, potential impacts to Rabbit Springs Road/Barstow Road intersection are considered temporary and no mitigation is required. This is considered a less than significant impact.

As a standard condition of approval, the Sienna 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 Sienna 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 Sienna Project site.
- 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 Sienna Project site, such that there would be a conflict with a program, plan, ordinance, or policy addressing the circulation system. Therefore, impacts during construction would be less than significant.

Roadway Segment Operations

Table 3.13-5 contains a summary of the Existing plus Project roadway segment analysis and LOS conditions. As shown in Table 3.13-5, all study area roadway segments are forecasted to operate at acceptable LOS A or B conditions under Existing plus Project conditions scenario.

Table 3.13-5. Existing Plus project Roadway Segment LOS Conditions

#	Roadway	Location	Facility Type (Number of Lanes)	Target LOS	Average Daily Traffic	LOS
1	Barstow Road	North of Rabbit Springs Road	Two-lane collector	C	3,950	A
2	Northside Road	East of Barstow Road	Two-lane collector	C	870	A
3	Rabbit Springs Road	East of Barstow Road	Two-lane collector	C	2,070	A
4	SR-247	Camp Rock Road to SR-18	Two-lane Highway	C	2,460	A
5	SR-247	SR-18 to Rabbit Springs Road	Two-lane Highway	C	2,960	A
6	SR-247	Rabbit Springs Road to Lucerne Valley Cutoff Road	Two-lane Highway	C	3,210	A
7	SR-18	Lucerne Valley, Jct. SR-247	Two-lane Highway	C	9,020	B

Source: Appendix L of this EIR
Notes:
[1] No LTL arterials without left turn lanes (LTL) at most major intersections (within study area).
[2] Daily volume to capacity on roadways does not supplant the need to perform peak-hour HCM-based analysis.

Public Transit, Bicycle, and Pedestrian Facilities

Public transportation in the immediate vicinity of the Sienna Project area is provided by the VVTA. To the south of the Sienna Project area, VVTA operates Route 23, the Lucerne Valley line, which runs along Central Road, Bear Valley Road, SR-18, and SR-247 between Apple Valley and Lucerne Valley (VVTA 2022). There are no bus stops within the Sienna Project area. The Sienna Project would not require closures of public roads, which would inhibit access of buses to existing bus stops in the immediate vicinity. Therefore, construction of the Sienna Project would not decrease the performance or safety of transit facilities, and this is considered a less than significant impact.

According to Policy Map TM-4 Bicycle & Pedestrian Planning of the County's Policy Plan[3], there are no pedestrian or bicycle facilities along the roadways in the Sienna Project area. Therefore, construction of the Sienna Project would not decrease the performance or safety of pedestrian and bicycle facilities and no impact would occur.

Operation - Less than Significant Impact. Following construction, the proposed Sienna Project would require a maximum of 15 fulltime employees for operation and maintenance of the solar facility. As such, the 15 employees will generate a maximum of 60 daily trips. Four daily trips will be generated by deliveries or other trip types. The addition of 64 daily trips to the surrounding circulation system would be negligible and are not anticipated to result in any impacts. Additionally, employees for the proposed Sienna Project would most likely be sourced from the local and/or regional labor pool. Therefore, these trips are considered redistributed trips from the local and regional roadway network

[3] San Bernardino Countywide Plan, TM-4 "Bicycle & Pedestrian Planning." Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=fcb9bc427d2a4c5a981f97547a0e3688. Accessed October 19, 2022.

(i.e., not new trips). As such, the Sienna Project's operational impacts are considered less than significant.

Public Transit, Bicycle, and Pedestrian Facilities

The Sienna Project would not require closures of public roads, which would inhibit access of buses to existing bus stops in the immediate vicinity. Therefore, operation of the Sienna Project would not decrease the performance or safety of transit facilities, and no impact would occur.

There are no pedestrian or bicycle facilities along the roadways in the Sienna Project area. Therefore, operation of the Sienna Project would not decrease the performance or safety of pedestrian and bicycle facilities and no impact would occur.

CALCITE SUBSTATION

Construction - Significant and Unavoidable. According to Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, construction of the proposed Calcite Substation would not require any temporary road or travel lane closures, except for a brief closure of SR-247 when distribution line stringing across the highway is required. It is estimated that peak construction could temporarily result in up to 180 vehicle trips per day (60 passenger vehicle trips and 120 truck trips) (California State Lands Commission 2021).

Construction of the proposed Calcite Substation would also likely include oversize vehicles required to deliver substation equipment and components, which would also increase safety risks on these roads and be considered inconsistent with Caltrans Plans for SR-18 and SR-247 (California State Lands Commission 2021).

To reduce potential temporary impacts, MM TRA-1 as described in 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR* and provided below, would be required for the project applicant to prepare a Construction Traffic Control Plan for review and approval by Caltrans and the County. MM TRA-1 requires a number of traffic control practices to reduce the number of temporary construction trips, control traffic ingress/egress, and ensures any oversized vehicle trips associated with delivery of materials for the Calcite Substation are obtained and followed (California State Lands Commission 2021).

However, even with implementation of MM TRA-1, construction of the proposed Calcite Substation would have a significant and unavoidable impact during the 18-month construction period. This is because of the very large number of construction trips (1,380 total trips) when the Calcite Substation trips are combined with the proposed Stagecoach Solar Generation Plant estimated trips. Even when mitigated, this number of trips would substantially affect safety along the affected rural roadway network (vehicles, pedestrians, and bicyclists) and be inconsistent with applicable plans that contain overall goals to maintain a safe roadway network (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a significant and unavoidable impact associated with the potential to conflict with a program, plan, ordinance or policy addressing the circulation system during construction. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. However, as described in the analysis above, even with implementation of mitigation, the amount of construction-related vehicle trips would substantially affect safety along the affected rural roadway network and be inconsistent with applicable plans related to a safe roadway network. This impact would be significant and unavoidable. No changes to the analysis as a result of the Sienna Project are necessary.

Operation – Less than Significant Impact. According to Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, daily traffic volumes associated with O&M activities of the Calcite Substation would be nominal and would not create a significant impact (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with the potential to conflict with a program, plan, ordinance or policy addressing the circulation system during operation. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM TRA-1 **Construction Traffic Control Plan.** Prior to the start of construction, the Applicant shall submit a Construction Traffic Control Plan (CTCP) for review and approval by the CSLC, Caltrans, and San Bernardino County. The CTCP shall address all roads that would be directly affected by the construction activities or would require permits and approvals. The CTCP shall include consideration of the specific contents defined below, as applicable to each component of the Proposed Project. The components defined herein may be modified based on agency consultation and on the final construction schedule and staffing levels.

Applicable to All Components (Stagecoach Solar Generation Plant, Stagecoach Gen-tie Line, and SCE Calcite Facilities) – the Applicant shall:

- Provide written notification to all property owners and tenants at properties affected by access restrictions to inform them about the timing and duration of obstructions and to arrange for alternative access if necessary. Initial notification defining the start of construction and the anticipated length of construction shall be included in the public notices defined in MM NOI-1b (Public Notification Process). Additional notices shall be provided if conditions or schedules change, at least one week prior to any change or road closures.
- Stagger shifts for construction workers to spread associated traffic over longer times in the morning and evening to improve traffic flow and safety challenges resulting from all workers having the same starting and ending times.
- Restrict non-worker construction trips, to the maximum extent feasible, to outside the hours of 7:00-9:00 a.m. and 4:00-6:00 p.m. to increase safety and traffic flow through Apple Valley and Lucerne Valley during peak construction commuter hours.
- Coordinate with the Cities of Victorville, Apple Valley, and Barstow to identify locations for park-and-ride carpooling lots within their communities and establish project-supported buses or vanpools from these locations. The

purpose of this measure is to increase safety and maintain traffic flow by decreasing the number of trips on rural roadway segments that have low baseline traffic volumes.

- Use flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc., at key locations according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices (FHWA 2021), the Standard Specifications for Public Works Construction (SFPUC 2021), and/or the California Manual on Uniform Traffic Control (Caltrans 2021) to ensure safe site ingress/egress and use of public roadways.
- Implement a public outreach campaign (signage, direct mail, website, recorded telephone update line, newspaper notices, etc.) to notify the public of construction traffic routes and construction duration.
- Install signage placed along the east and west shoulders of SR-247 at Sunset Road, Sunrise Road, and Rabbit Springs Road in the vicinity of Lucerne Valley Elementary School and Lucerne Valley Middle/High School notifying drivers of the school entrance and school traffic. Develop other provisions to ensure safe crossings of SR-247 by students at Lucerne Valley Elementary School and Lucerne Valley Middle/High School during peak Project commute hours and months.
- Submit to the CSLC, Caltrans, the CHP, and San Bernardino County a description of required oversize vehicles anticipated, permits from Caltrans, and means to follow all safety requirements such as flaggers, flashing lights, and/or the use of continuous traffic breaks operated by the CHP on state highways (if necessary).
- Develop plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Notify police departments and fire departments that serve the affected area in advance of the proposed locations, nature, timing, and duration of any roadway disruptions, areas of likely congestion, and access restrictions that could impact their effectiveness. At locations where roads will be blocked or constrained, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies.
- Develop and implement a method for maintaining close coordination with San Bernardino County and other federal and local agencies responsible for approving major projects that may include significant traffic volumes on shared segments of regional and local roadways where the majority of Project-related trips would occur. This coordination would allow Lead Agencies to consider staggering project construction timeframes to minimize the potential for multiple simultaneous construction projects affecting shared portions of the circulation system.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Even with implementation of MM TRA-1, as described in Section 4.17, Traffic and Transportation of the *Stagecoach Solar Project Draft EIR,* construction of the proposed Calcite Substation would have a significant and unavoidable impact during the 18-month construction period.

Impact 3.13-2 Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

SIENNA PROJECT

Less than Significant Impact. Transportation planners have used VMT as a metric for several purposes going back decades; however, the measurement of a project's VMT for the purposes of CEQA analysis has only recently been required. Specifically, by July 1, 2020, all CEQA lead agencies were required to analyze a project's transportation impacts using vehicle miles traveled (VMT). VMT measures the amount of travel for all vehicles in a geographic region over a given period of time. It is calculated by adding up all the miles driven by all the cars and trucks on all the roadways in a region, or simply by multiplying the number of vehicles by distance in miles. This metric plays an integral role in the transportation planning, policymaking, and revenue estimation processes due to its ability to indicate travel demand and behavior.

Per *CEQA Guidelines* section 15064.3(b), VMT analysis under CEQA may be based on the following:

- **Qualitative Analysis:** If existing models or methods are not available to estimate VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
- **Methodology:** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the chance in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgement based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

CEQA Guidelines section 15064.3(b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the *CEQA Guidelines* criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shifts the focus from driver delay to reduction of vehicular greenhouse gas emissions through creation of multimodal networks, and creation of a mix of land uses that can facilitate fewer and shorter vehicle trips.

VMT is a measure of the total number of miles driven for various purposes and is sometimes expressed as an average per trip or per person. Construction traffic associated with the proposed Sienna Project would be temporary and would not permanently affect VMT characteristics in this part of San

Bernardino County or elsewhere. Long-term, operational traffic would be limited, with a small work force of (5 employees), most of whom would be sourced from the local and/or regional employment pool. Therefore, VMT resulting from operation of the proposed Sienna Project would be nominal and largely comprised of redistributed trips (i.e., from local employees). According to technical guidance issued by the Office of Planning and Research (OPR) and the County's TISG (County of San Bernardino Public Works Department 2019), projects generating less than 110 or fewer daily vehicle trips may be presumed to have a less than significant impact involving VMT. The Sienna Project is anticipated to result in "Low VMT" based upon an estimate of 64 daily trips. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. According to Section 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR,* construction of the proposed Calcite Substation would result in temporary traffic trips that would generate a temporary VMT increase. Upon completion of construction, all construction worker commute trips and truck trips would cease. Additionally, the operation and maintenance of the proposed Calcite Substation would require only minor volumes of trips for maintenance. Therefore, construction and operation of the Calcite Substation would not generate excessive VMT that could affect existing transit uses or corridors. As such, impacts would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with VMT. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.13-3 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)?

SIENNA PROJECT

Less than Significant Impact. The Sienna Project site is located in a rural portion of unincorporated San Bernardino County, and would not require improvements to existing offsite roads, development of new public roads or the introduction of new hazards to roads leading to the Sienna Project site.

Vehicular access to the Sienna Project site driveways would be provided via Barstow Road, Camp Rock Road, and Old Woman Springs Road. 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. The Sienna 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.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. As previously described in Impact 3.13-1 above, construction trips associated with the proposed Calcite Substation would include oversized vehicles, which could create hazards to motorists. To reduce impacts from temporary trips accessing the site and from oversize vehicle trips, MM TRA-1 as described in 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, would require the preparation of a Construction Traffic Control Plan for review and approval by Caltrans and the County. With the implementation of MM TRA-1, construction of the Calcite Substation would have a less than significant impact with respect to substantially increasing roadway hazards (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with temporary roadway hazards. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM TRA-1 Construction Traffic Control Plan

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM TRA-1, as described in Section 4.17, Traffic and Transportation of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with roadway hazards would be reduced to a less than significant level.

Impact 3.13-4 Would the Project result in inadequate emergency access?

SIENNA PROJECT

Less than Significant Impact. Because of the short-term nature of the construction activities, the Sienna Project's construction activities would not require a new, or significantly interfere with an existing risk management, emergency response, or evacuation plan. The Sienna 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 Sienna Project site. Therefore, the Sienna Project would not result in inadequate emergency access during construction, and any potential impacts would be less than significant.

The Sienna Project would not develop new public roads or introduce new hazards to roads leading to the Sienna Project site. Vehicular access to the Sienna Project site driveways would be provided via Barstow Road, Camp Rock Road, and Old Woman Springs Road. All access roads interior to the Sienna Project site would be constructed consistent with County Fire code. The Sienna Project would not result in inadequate emergency access during operation, and potential impacts would be less than significant.

CALCITE SUBSTATION

Significant and Unavoidable. As discussed in Impact 3.13-1 above, construction of the proposed Calcite Substation would introduce a high volume of daily trips when combined with the Stagecoach Solar Generation Plant components, some of which may be oversized vehicles directly attributed to the Calcite Substation. The addition of these trips on rural segments of SR-18 and SR-247 is anticipated to reduce the speeds and responses times of emergency vehicles travelling along the affected roadways during construction hours. As such, MM TRA-1 as described in 4.17, Traffic and Transportation, of the *Stagecoach Solar Project Draft EIR*, would require the preparation of a Construction Traffic Control Plan for review and approval by Caltrans and the County. This also requires the applicant to provide plans to coordinate in advance with emergency service providers. However, even with the implementation of MM TRA-1, construction of the proposed Calcite Substation is considered to have a significant and unavoidable impact when combined with the 18-month construction period. Even when mitigated, construction of the Calcite Substation would substantially affect emergency movements along the rural roadway network (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a significant and unavoidable impact associated with the potential to result in inadequate emergency access. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. However, as described in the analysis above, even with implementation of mitigation, emergency access would be affected during the construction period. This impact would be significant and unavoidable. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

The following mitigation measure from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) is applicable to the Calcite Substation:

MM TRA-1 Construction Traffic Control Plan

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

With implementation of MM TRA-1, as described in Section 4.17, Traffic and Transportation of the *Stagecoach Solar Project Draft EIR*, potential impacts associated with inadequate emergency access would be minimized, but would remain significant and unavoidable.

This page is intentionally blank.

3.14 Tribal Cultural Resources

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the Project in relation to tribal cultural resources. This section also describes mitigation measures that would avoid of reduce potentially significant impacts to tribal cultural resources, where applicable. Information for this section is summarized from the *Cultural Resources Study* prepared by Rincon Consultants, Inc. (Appendix F of this EIR), the *San Bernardino Countywide Policy Plan*, consultation with applicable agencies and Native American tribes, and the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

Due to confidential information contained in the *Cultural Resources Study*, the report is not available for public review.

3.14.1 Existing Conditions

Tribal cultural resources are defined 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 of Historical Resources (CRHR), or included in a local register of historical resources; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be tribal cultural resources if they meet these criteria (Public Resources Code [PRC] Section 21074).

Tribal Cultural Setting

The Serrano occupied an area in and around the San Bernardino Mountains between approximately 450 and 3,350 meters (1,500-11,000 ft) above mean sea level. Their territory extended west of the Cajon Pass, east past Twentynine Palms, north of Victorville, and south to Yucaipa Valley. The Serrano language is part of the Serrano division of a branch of the Takic family of the Uto-Aztecan linguistic stock (Appendix F of this EIR).

Serrano was originally spoken by a relatively small group located within the San Bernardino and Sierra Madre mountains, and the term “Serrano” has come to be ethnically defined as the name of the people in the San Bernardino Mountains (Appendix F of this EIR). The Vanyume, who lived along the Mojave River and associated Mojave Desert areas and are also referred to as the Desert Serrano, spoke either a dialect of Serrano or a closely related language (Appendix F of this EIR). Year-round habitation tended to be located on the desert floor, at the base of the mountains, and up into the foothills, with all habitation areas requiring year-round water sources (Appendix F of this EIR).

Most Serrano lived in small villages located near water sources (Appendix F of this EIR). Houses measuring 12 to 14 ft in diameter were domed and constructed of willow branches and tule thatching and occupied by a single extended family. Many of the villages had a ceremonial house, used both as a religious center and the residence of the lineage leaders. Additional structures within a village might include granaries and a large circular subterranean sweathouse. The sweathouses were typically built along streams or pools. A village was usually composed of at least two lineages.

The subsistence economy of the Serrano was one of hunting and collecting plant goods, with occasional fishing (Appendix F of this EIR). They hunted large and small animals, including mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Plant staples consisted of seeds, acorn nuts of the black oak, piñon nuts, bulbs and tubers, and shoots, blooms,

and roots of various plants, including yucca, berries, barrel cacti, and mesquite. The Serrano used fire as a management tool to increase yields of specific plants, particularly chía (Appendix F of this EIR).

Trade and exchange was an important aspect of the Serrano economy. Those living in the lower elevation, desert-floor villages traded foodstuffs with people living in the foothill villages who had access to a different variety of edible resources. In addition to inter-village trade, ritualized communal food procurement events, such as rabbit and deer hunts and piñon, acorn, and mesquite nut-gathering events, integrated the economy and helped distribute resources that were available in different ecozones (Appendix F of this EIR).

Contact between Serrano and Europeans was relatively minimal prior to the early 1800s. As early as 1790, however, Serrano were forcibly moved to missions (Appendix F of this EIR). More Serrano were relocated to Mission San Gabriel in 1811 after a failed indigenous attack on that mission. Most of the remaining western Serrano were moved to an asistencia built near Redlands in 1819 (Appendix F of this EIR).

A smallpox epidemic in the 1860s killed many indigenous Southern Californians, including many Serrano. Oral history accounts of a massacre in the 1860s at Twentynine Palms may have been part of a larger American military campaign that lasted 32 days. Surviving Serrano sought shelter at Morongo with their Cahuilla neighbors. Morongo later became a reservation. Other survivors followed the Serrano leader Santos Manuel down from the mountains and toward the valley floors and eventually settled what later became the San Manuel Band of Mission Indians Reservation, formally established in 1891 (Appendix F of this EIR).

Today, many Serrano live either on the Morongo or San Manuel reservations. The Morongo Band of Mission Indians of the Morongo Reservation, established through presidential executive orders in 1877 and 1889, includes both Cahuilla and Serrano members. Established in 1893, the San Manuel Band of Mission Indians Reservation included 84 Serrano tribal members in 2004. Both Morongo and San Manuel are federally recognized tribes (Appendix F of this EIR).

Sacred Lands File Results

SIENNA PROJECT

The California Native American Heritage Commission (NAHC) identifies, catalogs, and protects Native American cultural resources on private and public lands in California. Cultural resources include graves, cemeteries, and places of special religious or social significance to Native Americans. The NAHC also records the historical territories of state recognized tribes into a database called the Sacred Lands File (SLF). A records search of the SLF is typically conducted as part of the CEQA process to ensure that the tribes potentially affected by a project are properly notified and consulted.

A SLF search request was submitted to the NAHC on August 6, 2021. The NAHC sent a response on September 3, 2021, stating that a search of the SLF was completed with negative results.

Tribal Notification

SIENNA PROJECT

The County began the AB 52 Native American Consultation on April 20, 2022. 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:

- Fort Mojave Indian Tribe

- Morongo Band of Mission Indians
- Yuhaaviatam of San Manuel Nation

The County received a response from the Yuhaaviatam of San Manuel Nation (YSMN) (formerly known as the San Manuel Band of Mission Indians) on May 12, 2022, indicating that the Sienna Project area exists within Serrano ancestral territory and, therefore, is of interest to the YSMN. However, due to the nature and location of the Sienna Project, and given the CRM Department's present state of knowledge, YSMN does not have any concerns with the Sienna Project's implementation, as planned, at this time. However, the YSMN requested preferred tribal mitigation measures be implemented during construction of the Sienna Project. These mitigation measures are discussed below and in Section 3.6, Cultural Resources, of this EIR. To date, no other responses from the Native American community have been received as part of the AB 52 tribal consultation effort.

CALCITE SUBSTATION

In August 2020, the California State Lands Commission (CSLC) sent project notification letters and an invitation to consult under AB 52 to the following tribes:

- Kern Valley Indian Community
- Morongo Band of Mission Indians
- San Fernando Band of Mission Indians
- Yuhaaviatam of San Manuel Nation
- Serrano Nation of Mission Indians
- Tubatulabals of Kern Valley

While there were no responses to the outreach letters, the CSLC received one response to the AB 52 consultation letter from YSMN. The YSMN provided several mitigation measures pursuant to Public Resources Code section 21080.3.2, subdivision (a), and discussion of those recommendations have been included in consultation meetings held between the YSMN and the CSLC. The YSMN also provided information related to the types of Tribal cultural resources that may be present on the Calcite Substation site (California State Lands Commission 2021).

3.14.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Sienna Project.

Federal

Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code Section 3001, et seq.

The Native American Graves Protection and Repatriation Act defines "cultural items," "sacred objects," and "objects of cultural patrimony;" establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

State

Assembly Bill 52

Assembly Bill (AB) 52 amends PRC 5097.94, and adds eight new sections to the PRC relating to Native Americans. Assembly Bill 52 was passed in 2014 and took effect on July 1, 2015. It establishes a new category of environmental impacts that must be considered under CEQA called tribal cultural resources (PRC 21074) and establishes a process for consulting with Native American tribes and groups regarding potential impacts to tribal resources. Under AB 52, a project that may substantially change the significance of a tribal cultural resource is a project that may have a significant impact on the environment. If a project may cause a significant impact on a tribal cultural resource, the lead agency shall implement measures to avoid the impacts when feasible.

Public Resources Code Section 21074

Section 21074 of the PRC defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, and any object with cultural value to a California Native American Tribe. A tribal cultural resource must be on or eligible for the CRHR or must be included in a local register of historical resources. The lead agency can determine if a tribal cultural resource is significant even if it has not been evaluated for the CRHR or is not included on a local register.

Assembly Bill 4239

Assembly Bill 4239, passed in 1976, established the NAHC as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites and authorized the Commission to prepare an inventory of Native American sacred sites located on public lands.

Public Resources Code 5097.97

Pursuant to PRC Section 5097.97, no public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

Public Resources Code 5097.97 (b) and (e)

Sections 5097.98 (b) and (e) of the PRC require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified most likely descendants (MLD) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

California Health and Safety Code, Section 7050.5

California Health and Safety Code (HSC) 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

San Bernardino County Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The Sienna Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning. Relevant policies from the Policy Plan that are applicable to the proposed Project 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.

3.14.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to tribal cultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to tribal cultural resources are considered significant if the project causes 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 the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC section 5020.1(k)
- 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe

Impact Analysis

Impact 3.14-1 Would the Project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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)?

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As stated in Section 3.14.1, a SLF search request was submitted to the NAHC on August 6, 2021. The NAHC sent a response on September 3, 2021, stating that a search of the SLF was completed with negative results. 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 Sienna Project site or immediate vicinity. Therefore, the Sienna Project would result in no impacts to tribal cultural resources.

The Sienna 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 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 Sienna 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.

Once construction is complete, operation of the Sienna Project would not involve ground disturbing activities that could impact buried TCRs, as defined in PRC Section 21074 or 5020.1(k), and no impact would occur.

CALCITE SUBSTATION

Less than Significant with Mitigation Incorporated. According to Section 4.5, Cultural Resources - Tribal, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the records search and the NAHC sacred lands file results did not indicate the existence of areas of significance within the proposed Calcite Substation area. However, the intensive pedestrian surveys identified a prehistoric site that is considered eligible for the CRHR (3380-13). The site is located near the former northern shoreline of Pleistocene Lake Lucerne.

During consultation with the SMBMI, the Tribal representative indicated that the area is considered by the Tribe to have a high sensitivity for Tribal cultural resources. While the Tribal cultural resources described therein are not eligible or listed on the CRHR, the CSLC staff determined them to be

significant, based on the formal statements and testimony provided by the SMBMI Tribal Historic Preservation Officer, as provided in the Office of Planning and Research AB 52 Technical Advisory. Therefore, impacts of the proposed Calcite Substation to Tribal cultural resources are potentially significant, because project activities could adversely affect the significance of these identified Tribal cultural resources.

Implementation of MM TCR-1a (Tribal Monitoring) and MM TCR-1b (Treatment of Cultural Resources) as described in Section 4.5, Cultural Resources - Tribal, of the *Stagecoach Solar Project Draft EIR*, and MM CUL-1a through MM CUL-1g and MM CUL-3 as described in Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*, would be implemented to reduce potential impacts associated with direct impacts to Tribal cultural resources (California State Lands Commission 2021) to a less than significant level.

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with tribal cultural resources that are listed or eligible for listing in the CRHR or other local register of historical resources. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

TCR-1 **Tribal Cultural Resources**. The Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed in Mitigation Measure CR-3, 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 YSMN and the County Planning Department, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to represent YSMN for the remainder of the Sienna Project, should SMBMI elect to place a monitor on-site.

If a pre-contact cultural resource is discovered during implementation of the Sienna Project, 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 Qualified Archaeologist shall develop a research design that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the YSMN, 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 YSMN. All plans for analysis shall be reviewed and approved by the Applicant and YSMN prior to implementation, and all removed material shall be temporarily curated on-site. YSMN has indicated it is the preference of YSMN 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 YSMN, 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 YSMN. All reburials are subject to a reburial agreement that shall be developed between the landowner and YSMN 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 YSMN 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 YSMN 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 YSMN.

Inadvertent Discovery Guideline

1. In the event that cultural resources are discovered during Sienna 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 Sienna Project outside of the buffered area may continue during this assessment period. Additionally, the YSMN 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 YSMN 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 Sienna Project.

TCR-2 **Archaeological/Cultural Documentation**. Any and all archaeological/cultural documents created as a part of the Sienna Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Applicant and County for dissemination to the YSMN. The County and/or Applicant shall, in good faith, consult with YSMN throughout the life of the Sienna Project.

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM TCR-1a **Tribal Monitoring**. Due to the heightened cultural sensitivity of the proposed project area, Tribal monitors representing the San Manuel Band of Mission Indians shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage.

MM TCR-1b **Treatment of Cultural Resources.** If a pre-contact cultural resource is discovered during archaeological testing or during construction, the discovery shall be properly recorded and then reburied *in situ.* The Cultural Resources Management Plan (defined in MM CUL-1b) shall include a research design developed by the Cultural Resources Specialist (CRS) that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department, the CRS, and the CSLC shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary.

MM CUL-1a **Retain a Cultural Resources Specialist** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-1b **Prepare and Implement a Cultural Resources Management Plan** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-1c **Develop and Implement a Cultural Resource Environmental Awareness Training** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-1d **Archaeological Monitoring** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-1e **Unanticipated Discoveries** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-1f **Monitoring Report** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-1g **Avoidance of Environmentally Sensitive Area** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

MM CUL-3 **Treatment of Human Remains** (see Section 4.4, Cultural Resources, of the *Stagecoach Solar Project Draft EIR* and Section 3.6, Cultural Resources, of this EIR)

Level of Significance After Mitigation

SIENNA PROJECT

With implementation of Mitigation Measures TCR-1 and TCR-2, the Sienna Project's potential impacts to tribal cultural resources would be reduced to a less than significant level during Project construction.

CALCITE SUBSTATION

With implementation of MM CUL-1a through CUL-1g, MM CUL-3 and MM TCR-1a and TCR-1b, as described in Section 4.4, Cultural Resources and Section 4.5, Cultural – Tribal Resources, of the *Stagecoach Solar Project Draft EIR*, potential impacts would be reduced to a less than significant level.

Impact 3.14-2 ***Would the Project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a 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?***

SIENNA PROJECT

Less than Significant with Mitigation Incorporated. As stated above in Impact 3.14-1, a SLF search request was submitted to the NAHC on August 6, 2021. The NAHC sent a response on September 3, 2021, stating that a search of the SLF was completed with negative results. Pursuant to AB 52, Native American tribal consultation was initiated in April 2022. Project notifications were provided in a letter sent via certified mail on April 20, 2022 to the Fort Mojave Indian Tribe, Morongo Band of Mission Indians, and the YSMN. The County received a response from the on May 12, 2022, indicating that the Sienna Project area exists within Serrano ancestral territory and, therefore, is of interest to the YSMN. However, due to the nature and location of the Sienna Project, and given the CRM

Department's present state of knowledge, YSMN does not have any concerns with the Sienna Project's implementation, as planned, at this time. The YSMN did not indicate the potential for traditional cultural properties or sacred sites on the Sienna Project site. However, the YSMN requested preferred tribal mitigation measures be implemented during construction of the Sienna Project. These mitigation measures are provided above (Mitigation Measures TCR-1 and TCR-2) and in Section 3.6, Cultural Resources, of this EIR. To date, no other responses from the Native American community have been received as part of the AB 52 tribal consultation effort.

As described under Impact 3.14-1, the potential exists that there may be undiscovered tribal cultural resources that could be unearthed during ground-disturbing activities during 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 Sienna 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.

Once construction is complete, operation of the Sienna Project would not involve ground disturbing activities that could impact buried TCRs, as defined in PRC Section 21074 or 5024.1(c), and no impact would occur.

CALCITE SUBSTATION

Less than Significant Impact with Mitigation Incorporated. As stated above in Impact 3.14-1, the proposed Calcite Substation site is located in an area with high sensitivity for Tribal cultural resources according to consultation with the YSMN. In addition, the pedestrian surveys for the Calcite Substation identified a prehistoric site considered eligible for the CRHR. As such, construction of the Calcite Substation has the potential to substantially impact or change the significance of a Tribal cultural resource, as defined in Public Resources Code Section 21074. However, with the implementation of MM TCR-1a and MM TCR-1b, MM CUL-1a through MM CUL-1g, and MM CUL-3, potential impacts would be reduced to a less than significant level (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a potential impact associated with tribal cultural resources that are significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Accordingly, mitigation was identified to reduce the potential impact to a less than significant level. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

TCR-1 Tribal Cultural Resources

TCR-2 Archaeological/Cultural Documentation

CALCITE SUBSTATION

The following mitigation measures from the *Stagecoach Solar Project Draft EIR* (or as adopted as part of the Final EIR) are applicable to the Calcite Substation:

MM TCR-1a **Tribal Monitoring** (as previously described under Impact 3.14-1)

MM TCR-1b **Treatment of Cultural Resources** (as previously described under Impact 3.14-1)

MM CUL-1a **Retain a Cultural Resources Specialist** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

MM CUL-1b **Prepare and Implement a Cultural Resources Management Plan** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

MM CUL-1c **Develop and Implement a Cultural Resource Environmental Awareness Training** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

MM CUL-1d **Archaeological Monitoring** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

MM CUL-1e **Unanticipated Discoveries** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

MM CUL-1f **Monitoring Report** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EI*R)

MM CUL-1g **Avoidance of Environmentally Sensitive Area** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

MM CUL-3 **Treatment of Human Remains** (Section 4.4, Cultural Resources of the *Stagecoach Solar Project Draft EIR*)

Level of Significance After Mitigation

SIENNA PROJECT

With implementation of Mitigation Measures TCR-1 and TCR-2, the Sienna Project's potential impacts to tribal cultural resources would be reduced to a less than significant level during Project construction.

CALCITE SUBSTATION

With implementation of MM CUL-1a through CUL-1g, MM CUL-3 and MM TCR-1a and TCR-1b, as described in Section 4.4, Cultural Resources and Section 4.5, Cultural – Tribal Resources, of the *Stagecoach Solar Project Draft EIR*, potential impacts would be reduced to a less than significant level.

3.15 Utilities and Service Systems

The section identifies the existing utility infrastructure and supply service systems in the Project area, analyzes potential impacts of the proposed Project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed Project, where applicable. The information in this section is summarized from various utility supplier databases and the Project-specific *Water Supply Assessment* prepared by Rincon Consultants, Inc (Appendix M of this EIR).

Information for the proposed Calcite Substation is summarized from the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

3.15.1 Existing Conditions

Sienna Project

Water

The Sienna Project site is within the Mojave Basin Area, which is managed by the Mojave Water Agency (MWA). Figure 3.15-1 shows the boundaries of the Mojave River Drainage Basin. This area refers to the surface drainage area associated with the Mojave River, which is interrelated with the underlying groundwater resources. As shown in Figure 3.15-1, the Mojave Basin Area is divided into five Subareas. The Sienna Project site overlies the Lucerne Valley Subbasin of the Este (East) Subarea within the Mojave Basin Area.

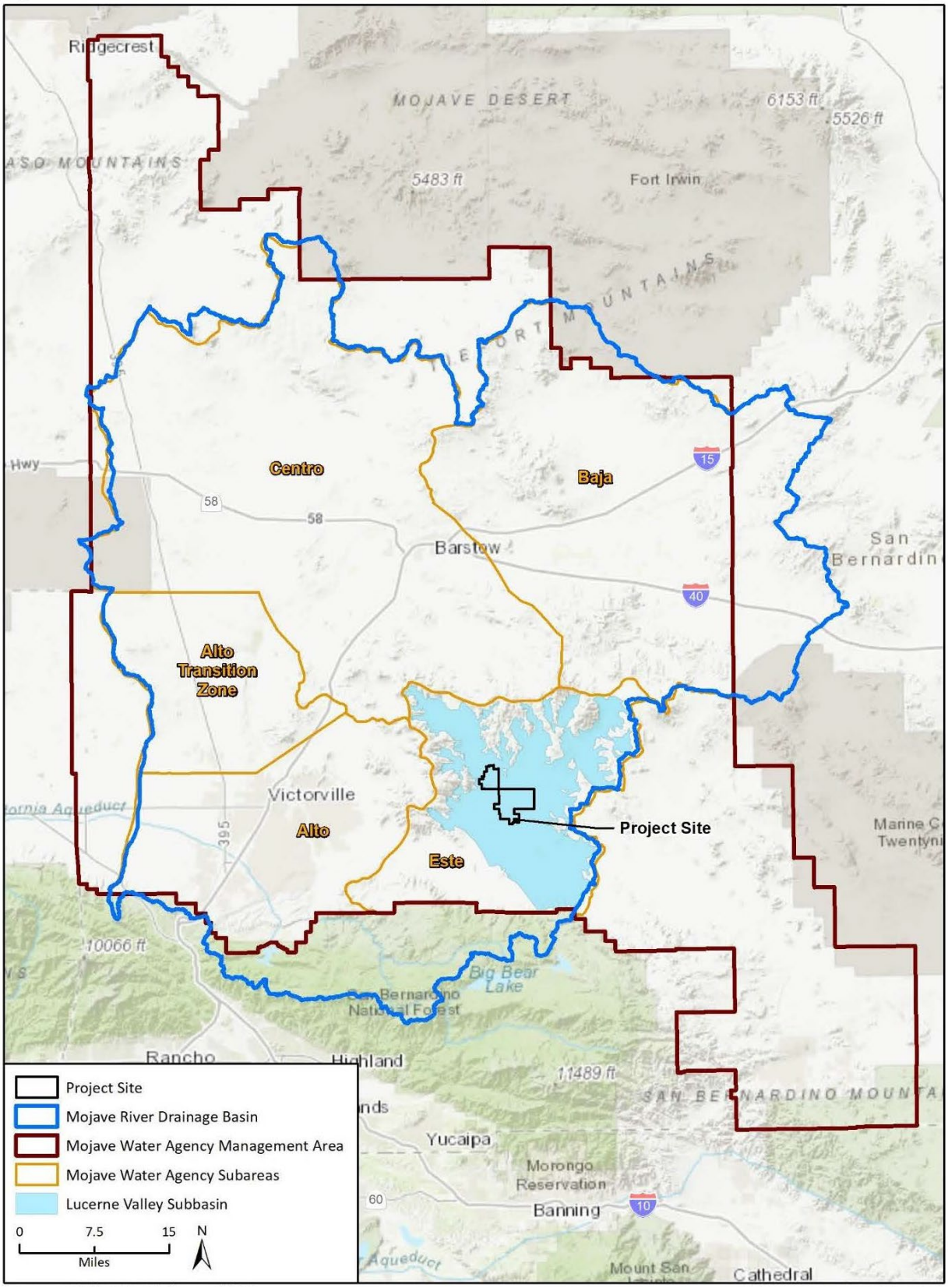
The MWA was appointed as the Watermaster over the Mojave Basin Area Adjudication. As the Watermaster, MWA is responsible for managing water resources, maintaining water quality, and promoting efficient use of local water supplies through conservation programs and public awareness.

The MWA does not sell water directly to consumers; rather, in its role as Watermaster, it regulates the groundwater supplies in the Mojave Basin Area, sets Free Production Allowance (FPA)[1] limits for each owner of Base Annual Production (BAP)[2] rights, and manages the purchase and import of Replacement Water and the storage of groundwater supplies for future use during dry years (Appendix M of this EIR).

[1] FPA is the annually variable percentage of its BAP that each non-minimal [more than 10 AFY] producer is allowed to use before it is required to purchase Replacement Water.

[2] BAP are the water rights associated with landowners that historically produced more than 10 AFY from the basin.

Figure 3.15-1. Groundwater Resources and Management Area



Source: Appendix M of this EIR

The MWA uses water from several sources to manage the recharge of groundwater within its management jurisdiction, including:

- Imported water from the State Water Project (SWP);
- Reclaimed wastewater imports from treatment facilities outside the MWA service area, including facilities in Victorville, Big Bear, Crestline, and Lake Arrowhead; and,
- 'Return Flow' water, or water flowing back into the basins' groundwater after being discharged by industrial and wastewater facilities, runoff from irrigation, percolating septic system outflows, and stormwater discharges.

As a SWP contractor, MWA receives SWP supplies via the California Aqueduct. MWA purchases Replacement Water from the SWP on behalf of purveyors in its service area that exceed their FPA in a given year, and uses the Replacement Water in spreading grounds to recharge the local groundwater in the same Subarea where the excess withdrawal occurred. As MWA continues to manage the groundwater supplies in the various Subareas, it has relied less on imported SWP water. Table 3.15-1 provides the total annual water use in the MWA service area from 2015 to 2020, with water uses broken down for large retailers, small water systems and rural domestic systems, agricultural uses, and other uses including industrial and recreational uses. As shown in Table 3.15-1, the total water demands and uses in MWA's jurisdiction was 136,750 acre-feet (AF) in 2015, which decreased approximately 5.5 percent through 2020, when water demands totaled 129,192 AF.

Table 3.15-1. Mojave Water Agency Use (Demand) 2015 – 2020

Land Use Category	2015	2016	2017	2018	2019	2020
Large Retailer	63,687	63,492	65,406	64,588	65,893	69,858
Small Systems and Rural Domestic	13,163	12,141	12,720	16,896	12,393	11,014
Agriculture	38,800	39,400	33,000	32,200	30,100	26,600
Other (Industrial, Recreation, etc.)	21,100	20,600	21,700	23,600	21,600	21,720
Total Water Use	**136,750**	**135,633**	**132,826**	**137,284**	**129,986**	**129,192**

Source: Appendix M of this EIR

Table 3.15-2 provides an overview of water supply in MWA's jurisdiction, including total imports, return flow (groundwater), and natural supply for the 2019 to 2020 water year. As shown in Table 3.15-2, MWA's total estimated water supply for water year 2019 through 2020 was 128,831 AF, a difference of approximately 361 AF, representing 0.3 percent less supply than the total demand projected for year 2020 (Table 3.15-1). Considering the scope of the MWA jurisdiction, and the multitude of factors affecting supply availability, this difference is considered minimal.

Table 3.15-2. Mojave Water Agency Supply 2020

Water Source	Quantity (AF)
Natural Supply[1]	57,349
Imported Wastewater (Victorville)	13,719
Imported Wastewater (Other)	4,019
Imported Water (SWP)	9,397
Return Flows	44,347
Total	**128,831**

Source: Appendix M of this EIR
Notes: [1] MWA estimates the average natural supply to the basin, from precipitation and snowmelt, as 57,349 AFY. This long-term average is assumed to be stable despite changing drought conditions which may affect hydrological conditions and recharge.

Water Supply

Water supply for the Sienna Project would be obtained from locally produced groundwater using an on- or off-site well, or by purchasing treated water from a local purveyor and trucking it to the site.

LOCALLY PRODUCED GROUNDWATER

Groundwater local to the Sienna Project area is within an area managed in accordance with an Adjudication Judgement. As such, each property owner and water user within the Adjudication Area has an allocated amount of groundwater that is allowed to be produced from that respective parcel(s) in any given year, subject to the management direction of the MWA. The Sienna Project area consists of 27 individual parcels. Some of the parcels within the Sienna Project area are currently in use as agricultural land and/or have existing water supply, as well as BAP rights and allotted FPAs. Of the 27 parcels within the Sienna Project area, two parcels comprise nearly 17 percent of groundwater produced in the Lucerne Valley Subbasin Table 3.15-3. As shown in Table 3.15-3, the parcels had 2021 carryover values between 1,125 and 1,330 AF, where carryover represents a portion of unused FPA which producers are allowed under the Adjudication Judgement to use in the year subsequent to the FPA allocation. The values from 2020 indicate that a large portion of the allocated water was not used during the 2019-2020 water year.

Table 3.15-3. Sample Parcel Water Allocations

APN	Base Annual Production	2020-2021 FPA	2019-2020 Production	2021-2022 FPA	2021 Carryover	Percent of Este Total BAP[1]
0452-062-24	1,500	1,050	80	975	1,125	7.7
0452-112-24	1,773	1,242	1,037	1,153	1,330	9.2
Totals						**27.9**

Source: Appendix M of this EIR
Notes: All values are in acre-feet (AF).
The Este Subarea has a total of 19,251 AF in assigned BAP amongst 65 different owners.

Notably, in accordance with the Adjudication Judgement, the water rights associated with individual parcels may be transferred to other parcel(s) owned by the same party/parties within the Este Subarea, as the BAP is attached to the property owner(s) over the individual parcel(s); i.e., if the owners of the parcels identified in Table 3.15-3 also have ownership of other parcels in the Este Subarea, their BAP is freely assignable amongst their other parcels, such that a change of ownership may also result in a

change of water supply allocations to the subject properties. The issue of water rights would be addressed between the Project applicant, the individual property owners, and the Watermaster, prior to initiation of water uses for the Project.

PURCHASED WATER FROM A LOCAL RETAILER

Alternative to using locally produced groundwater for the Sienna Project, water supply may also be purchased from a local retailer with capacity to provide the required supply. In the Este Subarea, the largest retailers are the Jubilee Mutual Water Company and the Golden State Water Company. Neither of these purveyors has an urban water management plan (UWMP), as they each have fewer than 3,000 connections or deliver less than 3,000 AFY, however, in its role as Watermaster, the MWA tracks their production rates and assigns them each an annual FPA for compliance with the Adjudication Judgement.

In the 2019-2020 water year, Jubilee Mutual Water Company had an FPA of 107 acre-feet as well as a carryover of 50 acre-feet. During the same water year, Jubilee pumped 117 acre-feet of its allocated 157 acre-feet, resulting in 40 acre-feet of unused water allocation which was then contributed to Jubilee's 2020-2021 allocation as carryover supply. Similarly, in the 2019-2020 water year, Golden State Water Company had an FPA of 134 acre-feet FPA as well as a carryover of 143 acre-feet, of which it pumped 151 acre-feet, leaving 126 acre-feet unused to carryover to water year 2020-2021 (Appendix M of this EIR).

This data indicates that Jubilee Mutual Water Company and Golden State Water Company both had excess water supply available in water year 2019-2020, resulting in carryover to water year 2020-2021. In accordance with the Adjudication Judgement, there will be annual decreases in the FPA allocated to all water rights holders in the Mojave Basin Area, including these local purveyors, in an effort to achieve and maintain sustainable groundwater conditions. As such, the water supply availability for these local purveyors may decrease in future years (Appendix M of this EIR).

Wastewater

The majority of residential properties located within the County's Desert Region (in which the Sienna Project site is located) dispose of wastewater to private septic tanks. The Sienna Project site is not currently served by a public wastewater treatment service provider. Wastewater disposal for the Sienna Project would occur via private septic systems.

Stormwater

No existing storm drain systems exist within the Sienna Project site or downstream of the Sienna Project. The majority of the site is mostly level and slope gradients across the site are extremely low. Thirty-nine small, shallow, ephemeral streams drain generally to the west and southwest in the direction of the dry lakebed. The streams convey water flows only during and immediately after high precipitation events. Hydromodification, primarily from roads, has fragmented stream flow in areas north and west of the dry lakebed. Road maintenance activities include clearing and blading, which create large soil berms on each side of the roads, blocking flow in most of the drainages at the road edge (Appendix E of this EIR).

Solid Waste

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for operation and management of the County's solid waste disposal system. The system consists of five regional

landfills and nine transfer stations (SWMD 2022). The County contracts with several waste haulers to provide services to businesses and residences in unincorporated areas. Burrtec Waste Industries provides solid waste removal and recycling services to the Sienna Project area (SWMD 2022).

The regional landfills closest to the Sienna Project site are the Victorville Landfill and Barstow Landfill, located approximately 20 miles to the northwest and 22 miles north of the Sienna Project site, respectively. The Victorville Landfill has a maximum permitted capacity of 93,400,000 cubic yards with an expected closure date of 2047. As of March 31, 2020, the Victorville Landfill has a remaining capacity of 79,400,000 cubic yards (CalRecycle 2020). The Barstow Landfill has a maximum permitted capacity of 80,354,500 cubic yards with an expected closure date of 2071 (CalRecycle 2020). As of December 31, 2014, the Barstow Landfill has a remaining capacity of 71,481,660 cubic yards.

Electricity

According to the Countywide Plan Policy Map IU-7: Electric Utility Service, the Sienna Project site is located within Southern California Edison's electric service area[3].

Natural Gas

According to the Countywide Plan Policy Map IU-6: Natural Gas Service, the Sienna Project site is located within Southwest Gas Corporation's natural gas service area[4].

Telecommunications

Verizon provides telecommunications services to the Sienna Project site.

Calcite Substation

Water and Wastewater

Due to the remote nature of the proposed Calcite Substation site, there are no water or sewer providers in the area (California State Lands Commission 2021).

Solid Waste

According to the *Stagecoach Solar Project Draft EIR*, (SCH No. 2020100235), the nearest landfill is the Barstow Landfill, located approximately 15 miles north of the proposed Calcite Substation on SR 247. Burrtec Waste Industries provides limited trash collection throughout the Calcite Substation area (California State Lands Commission 2021).

Electricity and Telecommunications

SCE provides electricity to customers in the proposed Calcite Substation area, but there are no existing distribution lines in the northern Lucerne Valley area. Verizon provides telecommunications services to the proposed Calcite Substation area (California State Lands Commission 2021).

---

[3] San Bernardino Countywide Plan, IU-7: Electric Utility Service. Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=5cbd8123d69b4d7f93c9734992635aef. Accessed October 24, 2022.

[4] San Bernardino Countywide Plan, IU-6: Natural Gas Service. Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=96118e960fc94361974d288422e54bb8. Accessed October 24, 2022.

3.15.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the Sienna Project.

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976 gave the United States Environmental Protection Agency (EPA) the authority to control hazardous waste from "cradle to grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances (EPA 2022).

State

California Urban Water Management Planning Act

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 AF 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 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.

Senate Bill 610 was not originally clear as to whether renewable energy developments were subject to SB 610 and, as such, would require the preparation of a WSA. Senate Bill 267 was signed into law on October 8, 2011, amending California's Water Law to revise the definition of "project" specified in SB 610. Under SB 267, wind and photovoltaic (PV) projects that consumed less than 75 AFY of water were not considered to be a "project" under SB 610; subsequently, a WSA would not be required for

this type of project. The renewable energy exclusions provided by SB 267 expired in January 2017. Since the language of SB 610 remains unclear as to whether renewable energy projects meet the definition of a "project," a WSA was prepared subject to the requirements of SB 610 and is included in Appendix M of this EIR.

Sustainable Groundwater Management Act

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 Lucerne Valley Groundwater Basin (Department of Water Resources [DWR] Basin No. 7-019) 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. The 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" (DWR 2022).

Safe Water Drinking Act

California Health and Safety Code Section 116270 et seq. implements the state's Safe Drinking Water Act. The Safe Water Drinking Act ensures public health and safety relative to clean drinking water. Under this act, the California Department of Public Health has the authority to regulate contaminant levels not to be exceeded in potable water supplies.

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 *California 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 DWR 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*). The next update to the *California Water Plan* is under development and will be released in 2023.

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 (California Natural Resources Agency et al. 2014). 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:

- Make conservation a California way of life.
- Increase regional self-reliance and integrated water management across all levels of government.
- Achieve the co-equal goals for the Delta.
- Protect and restore important ecosystems.
- Manage and prepare for dry periods.
- Expand water storage capacity and improve groundwater management.
- Provide safe water for all communities.
- Increase flood protection.
- Increase operational and regulatory efficiency.
- Identify sustainable and integrated financing opportunities.

California Integrated Waste Management Act

Assembly Bill (AB) 939 established the California Integrated Waste Management Act of 1989 (Public Resources Code Sections 42900–42927) which required all California cities and counties to reduce the volume of solid waste deposited in landfills by 50 percent by the year 2000. It also required that cities and counties continue to remain at 50 percent or higher for each subsequent year. The act is intended to reduce, recycle and reuse solid waste generated to the maximum extent feasible.

The act requires each California city and County to prepare, adopt and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet the act's mandated diversion goals. Each jurisdiction's SRRE must include specific components as defined in Public Resources Code Sections 41003 and 41303. In addition, the SRRE must include a program for management of solid waste generated in the jurisdiction consistent with the following hierarchy: (1) source reduction; (2) recycling and composting; and (3) environmentally safe transformation and land disposal. The SRRE

is required to emphasize and maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste to be disposed of by transformation and land disposal (Public Resources Code Sections 40051, 41002, and 41302).

State-Mandated Solid Waste Diversion

As landfills reach their capacities and new landfill sites become increasingly difficult to establish, the need to reduce solid waste generation is significant. State law currently requires that local jurisdictions divert at least 50 percent of their solid waste from landfills through recycling, conservation and composting. The County of San Bernardino is required to comply with state regulations.

Regional

Stipulated Judgment

The Mojave Basin is an adjudicated basin. Pumping of groundwater from the basin is governed by a Stipulated Judgment that was issued in 1996 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 proper water balances within each Subarea, the Judgment establishes a decreasing 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 (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.

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 (MWA 2021).

Local

San Bernardino Countywide Plan/Policy Plan

The *San Bernardino Countywide Plan/Policy Plan* serves as a 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 previous General Plan for the unincorporated areas. The Sienna Project's consistency with applicable policies under each element is summarized in Table 3.11-1 in Section 3.11, Land Use and Planning, of this EIR. The following goals and policies are applicable to the Project:

INFRASTRUCTURE AND UTILITIES ELEMENT

Policy IU-1.1 Water supply: We require that new development be connected to a public water system or a County-approved well to ensure a clean and resilient supply of potable water, even during cases of prolonged 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.

Policy IU-3.2 flood control: We require new development to install and maintain stormwater management facilities that maintain predevelopment hydrology and hydraulic conditions.

Policy IU-3.5 Fair share requirements. We require new development to pay its fair share of capital costs to maintain adequate capacity of the County's regional flood control systems.

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 the reduction, reuse, or recycling of solid waste.

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

Policy IU-5.3 Underground facilities: We encourage new and relocated power and communication facilities to be located underground when feasible, particularly in the Mountain and Desert regions.

Policy IU-5.4 Electric transmission lines: We support 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.

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.

San Bernardino County Development Code

Chapter 6 of the San Bernardino County Development Code regulates domestic water sources and systems within the County, including Public Water Supply Systems (Article 2), Water Wells (Article 3), and Desert Groundwater Management (Article 5).

3.15.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering Project impacts related to utilities and service systems, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, Project impacts related to utilities and service systems are considered significant if the Project would:

- require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; or
- have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years; or
- 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; or
- generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Impact Analysis

Impact 3.15-1 Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

SIENNA PROJECT

Less than Significant Impact.

Water

The Sienna Project would require the use of limited quantities of water during the construction phase for purposes of dust control and earthwork; operation of the Sienna Project would also require use of water for maintenance purposes (e.g., panel washing) and in support of daily activities at the proposed

on-site O&M facility. Water supply for the Sienna Project would either be sourced from the underlying groundwater basin, using existing water extraction rights associated with the subject properties, or it would be purchased from a local retail supplier and trucked to the site. Connection to a public water service system would not occur. Therefore, the Sienna Project would not require or result in the relocation or construction of new or expanded new water facilities, the construction or relocation of which could cause significant environmental effects. Therefore, impacts would be less than significant.

Wastewater

During construction of the Sienna Project, a negligible amount of wastewater would be generated by construction workers. However, any wastewater generated during construction would be temporary, only lasting for the approximate 12- to 24-month construction period. Wastewater disposal during construction would be provided on-site via portable toilet facilities and removed to an approved disposal site. No new service connections would be established during construction of the Sienna Project to handle wastewater generated by construction workers. Additionally, the Sienna Project would not include the construction or operation of any land uses that would generate notable quantities of wastewater (e.g., housing, businesses, etc.). Upon operation, the Sienna Project would require up to 15 fulltime employees, and a standard septic tank and leach field, designed to meet operation and maintenance guidelines required by San Bernardino County, may be used at the O&M building to dispose sanitary wastewater. Based on the evaluation above, the Sienna Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities. Impacts are considered less than significant.

Stormwater

No existing storm drain systems exist within the Sienna Project site or downstream of the Sienna Project. The Sienna Project site would remain largely impervious over the operational life of the Project. Therefore, water will continue to percolate through the ground, as a majority of the surfaces on the Sienna Project site will remain pervious. The Sienna Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities that could cause significant environmental effects. Impacts are considered less than significant.

Electricity and Natural Gas

The Sienna Project would involve construction of power facilities. However, these are components of the Project as evaluated in the EIR. To the degree that environmental impacts would result as a result of the construction of the Calcite substation, these impacts are addressed in the *Stagecoach Solar Project Draft EIR*, (SCH No. 2020100235) and summarized in this EIR. The Calcite substation would serve other utility-scale solar projects in the area, in addition to the Sienna Project. The Sienna Project would not otherwise generate the demand for or require or result in the relocation or construction of new or expanded electric power or natural gas facilities that would in turn, result in a significant impact to the environment. Impacts are considered less than significant.

Telecommunications

Telecommunication equipment, including underground and overhead fiber optics, and meteorological supervisory control and data acquisition would be installed to connect the Sienna Project to remote monitoring locations and ultimately to the proposed Calcite Substation. 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.

CALCITE SUBSTATION

Less than Significant Impact.

Wastewater

According to Section 4.15, Public Services, Utilities, and Service Systems, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation would not require sanitary facilities, as the site would be visited only for routine inspection and maintenance. No full-time employees would be necessary. Therefore, impacts on wastewater facilities would be less than significant (California State Lands Commission 2021).

Water Supply

According to Section 4.15, Public Services, Utilities, and Service Systems, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation would require temporary use of water, primarily for dust control during construction. During operation of the Calcite Substation, water demand would be significantly lower (California State Lands Commission 2021). Impacts associated with groundwater are addressed in Section 3.10, Hydrology and Water Quality of this EIR.

Electricity

According to Section 4.15, Public Services, Utilities, and Service Systems, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the Calcite Substation would require construction of approximately 700 feet of 12 kV overhead electric distribution line and approximately 2,100 feet of underground distribution line (connecting the existing distribution system along Haynes Road to the proposed Calcite Substation) to provide temporary power for construction and permanent substation light and power (California State Lands Commission 2021).

Natural Gas

According to Section 4.15, Public Services, Utilities, and Service Systems, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), no natural gas service would be required (California State Lands Commission 2021).

Telecommunications

According to Section 4.15, Public Services, Utilities, and Service Systems, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), telecommunications would be provided using fiber optic cable installed as part of the proposed Calcite Substation. Personnel also would use wireless communication devices as needed (California State Lands Commission 2021).

Conclusion

Construction of the proposed Calcite Substation would not require or result in the relocation or construction of new or expanded water, wastewater, treatment, or natural gas systems. Electrical and telecommunications support components of the Calcite Substation would be installed by SCE as part of its facilities. Therefore, impacts would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with the relocation or construction of new or expanded utilities. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.15-2 Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

SIENNA PROJECT

Less than Significant Impact. Construction of the Sienna Project would require approximately 225 acre-feet (AF) of water for dust suppression over the assumed 12 to 24-month[5] construction period. During the Sienna Project's 30-year lifetime, water demands would be associated with annual washing of the solar PV panels to maintain efficiency, potential wastewater associated with water treatment by a reverse osmosis deionization system, emergency fire suppression water (stored on-site), and potential operation of the Sienna Project's O&M building. The estimated operational water demand would be up to 50.36 AF for each year the Sienna Project is operational. According to the WSA prepared for the Sienna Project (Appendix M of this EIR), the Sienna Project's amortized annual water demand is 61.28 AF per year.

Non-potable water used during construction and operation of the Sienna Project would be obtained from locally produced groundwater using an on- or off-site well, or by purchasing treated water from a local purveyor and trucking it to the Sienna Project site.

Groundwater produced from the Lucerne Valley Subbasin would be subject to compliance with the Adjudication Judgement, under the management direction of the MWA. Currently the Mojave Basin Area is recovering from historic patterns of over-use and, while some areas continue to be affected by overdraft conditions, other areas are in balance. MWA continues to bolster and expand its available water supply through ongoing banking activities, including through storage of Carryover supplies in San Luis Reservoir. While the SWP allocation has declined and is expected to continue to decline,

[5] The construction period would occur over 12 to 24 months. The total water demand is assumed to be 225 acre-fee. A longer duration would result in a lower monthly demand. For the purposes of this WSA, water demands are analyzed for a 12-month period, as this provides a more conservative analysis than assuming a 24-month duration, which would reduce monthly water demands by approximately half (i.e., if sufficient water would be available for a 12-month period, then sufficient water would also be available for a 24-month period because the longer the phase duration, the lower the monthly water demands will be.

MWA is well-placed to continue providing supply to its customers under varying drought scenarios (Appendix M of this EIR).

Table 3.15-4 shows MWA's total projected supply and demand amounts through 2055. This table reflects supplies associated with groundwater resources and imported SWP water, as well as water storage and banking activities conducted by MWA.

Table 3.15-4. Total MWA Projected Supply and Demand Through 2055[1]

Water Supply Conditions		2025	2030	2035	2040	2045	2050	2055
Normal Year								
Supply Totals		158,541	159,452	159,372	159,299	160,710	161,985	163,141
Demand Totals		130,800	135,300	137,700	140,200	142,900	145,500	147,801
Difference		**27,741**	**24,152**	**21,672**	**19,099**	**17,810**	**16,485**	**15,341**
Single Dry Year								
Supply Totals		130,800	135,300	137,700	140,200	142,900	145,500	147,801
Demand Totals		130,800	135,300	137,700	140,200	142,900	145,500	147,801
Difference		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Multiple Dry Years								
First Year	Supply Totals	139,234	141,492	142,759	144,033	145,444	146,719	147,875
	Demand Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Difference	**8,434**	**6,192**	**5,059**	**3,833**	**2,544**	**1,219**	**75**
Second Year	Supply Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Demand Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Difference	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Third Year	Supply Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Demand Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Difference	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fourth Year	Supply Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Demand Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Difference	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fifth Year	Supply Totals	139,234	141,492	142,759	144,033	145,444	146,719	147,875
	Demand Totals	130,800	135,300	137,700	140,200	142,900	145,500	147,801
	Difference	**8,434**	**6,192**	**5,059**	**3,833**	**2,544**	**1,219**	**75**

Source: Appendix M of this EIR

As shown in Table 3.15-4, under all considered drought scenarios, including normal water year, single-dry water year, and multiple-dry year conditions, MWA total water supplies are sufficient to meet projected demands. Under normal (non-drought) conditions, MWA banks water for later use, and anticipates an increase in available supply that will meet the projected demand increases shown above. Under single-year drought conditions, MWA anticipates a reduction in supply from reduced SWP allocations, and MWA has sufficient storage reserves available to meet the projected demands. Under multiple-year drought conditions, MWA would ramp down water banking activities to provide additional supply. Water banking activities would cease during consecutive years of multiple-year drought conditions until year five, at which time MWA anticipates utilizing SWP water again to continue water banking at a reduced rate.

The Sienna Project's amortized annual water demand is 61.28 AF per year.[6] The Sienna Project area consists of numerous parcels, some of which are designated, zoned, and used for agricultural purposes, including irrigated crops. Any conversion of land from irrigated agriculture to solar energy development is assumed to result in a decreased water demand on the affected parcel(s), because irrigated agriculture is generally more water intensive than solar energy development.

Additionally, several of the parcels within the Sienna Project area currently account for a sizeable portion of the total amount of water consumed in the Este Subarea due to existing uses. Because the Project would replace existing uses with less water-intensive uses, and the water demand projections in the MWA's UWMP are based upon the current, more water-intensive uses, it can be inferred that the Project's water demands are fully accounted for in the UWMP. Furthermore, MWA's UWMP projects a surplus water supply under normal water year conditions and some drought scenarios, and sufficient supply availability to meet projected demand under multiple-year drought scenarios (Table 3.15-4). Therefore, sufficient water supply is available in the Project area to meet the demands of the Sienna Project.

If the Sienna Project pumps water on-site, utilizing purchased or leased FPA rights, the Sienna Project's demand would be less than the current or projected future BAP amounts of the parcels. If the Sienna Project's water supply is obtained by purchasing water from a local purveyor, that water would come from the respective purveyor's FPA allowances and, thus, be regulated and managed by the MWA in accordance with the Adjudication Judgement.

Based on the evaluation above, there is sufficient water supply available to meet the Sienna Project's potential water demands under normal-year, single-dry-year, and multiple-dry-year conditions through horizon year 2055. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. Impacts associated with the water supply related to the proposed Calcite Substation are addressed in Section 3.10, Hydrology and Water Quality of this EIR. Estimated water demand during construction of the Calcite Substation is approximately 31 AF over the 14-month construction period. Volume of groundwater would be supplied from the Este or Centre Subbasins and the amount of groundwater needed for construction would only require 0.1 percent of water from the Este Subbasin. Additionally, no long-term water use is expected during operation of the Calcite Substation. As such, impacts would be less than significant (California State Lands Commission 2021).

[6] The amortized annual water demand is the Project's total maximum water demand averaged over all phases of the Project, accounting for 32 years to capture one year of construction, 30 years of operation and maintenance, and one year of decommissioning or repowering.

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with sufficient water supplies. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.15-3 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?

SIENNA PROJECT

Less than Significant Impact. During construction of the Sienna Project, a negligible amount of wastewater would be generated by construction workers. However, any wastewater generated during construction would be temporary, only lasting for the approximate 12- to 24-month construction period. Wastewater disposal during construction would be provided on-site via portable toilet facilities and removed to an approved disposal site. No new service connections would be established during construction to handle wastewater generated by construction workers. Additionally, the proposed Sienna Project is a solar generation project that would not include the construction or operation of any land uses that would generate notable quantities of wastewater (e.g., housing, businesses, etc.). Upon operation, the Project would require up to 15 fulltime employees, and a standard septic tank and leach field, designed to meet operation and maintenance guidelines required by San Bernardino County, may be used at the O&M building to dispose sanitary wastewater. Based on the evaluation above, the Sienna Project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. As described in Impact 3.15-1, construction of the proposed Calcite Substation would not require sanitary facilities. The proposed Calcite Substation would not be manned and impacts on wastewater facilities would less than significant impact (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with adequate capacity for wastewater treatment. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.15-4 Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

SIENNA PROJECT

Less than Significant Impact. The SWMD is responsible for operation and management of the County's solid waste disposal system. The system consists of five regional landfills and nine transfer stations (SWMD 2022). The County contracts with several waste haulers to provide services to businesses and residences in unincorporated areas. Burrtec Waste Industries provides solid waste removal and recycling services to the Project area (SWMD 2022).

Solid waste from the Sienna Project site would be disposed of at the Victorville Landfill or Barstow Landfill. The Victorville Landfill has a maximum permitted capacity of 93,400,000 cubic yards with an expected closure date of 2047. As of March 31, 2020, the Victorville Landfill has a remaining capacity of 79,400,000 cubic yards (CalRecycle 2020). The Barstow Landfill has a maximum permitted capacity of 80,354,500 cubic yards with an expected closure date of 2071 (CalRecycle 2020). As of December 31, 2014, the Barstow Landfill has a remaining capacity of 71,481,660 cubic yards.

Solid waste would largely be generated by short-term construction activities associated with the proposed Sienna Project. However, given that the Sienna Project site is largely undeveloped, solid waste during construction would include minor quantities of construction debris such as concrete, metal, and packaging and other materials from construction workers. Any solid waste generated by the Sienna Project would be disposed of at a licensed off-site landfill or at a recycling facility, as appropriate.

Due to the nature of solar generation facilities, operation of the Sienna Project would generate minimal quantities of solid waste, generally from the 15 full-time workers on-site performing routine maintenance. Therefore, minimal amounts of solid waste may be generated by staff occupying the site and/or from periodic maintenance activities. All solid waste would be collected by workers on a daily

basis, or as otherwise needed, and transported to a licensed off-site landfill or recycling facility for disposal.

At the end of the Sienna Project's operational lifespan, the solar facility would be decommissioned. 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. Construction, operation and decommissioning activities for the Sienna Project are not anticipated to result in impacts related to landfill capacity. With Project conformance to applicable federal, state and local solid waste reduction and recycling measures, the Sienna Project is not anticipated to generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts are considered less than significant. No mitigation is required.

CALCITE SUBSTATION

Less than Significant Impact. Construction of the proposed Calcite Substation would produce solid waste. Landfills serving the proposed Calcite Substation area have sufficient capacity to accommodate project construction and would not result in impacts related to landfill capacity. As such, impacts would be less than significant (California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with solid waste. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

Impact 3.15-5 Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

SIENNA PROJECT

Less than Significant Impact. Refer to Impact 3.15-4 above. The Sienna Project would comply with federal, State, and local waste reduction statutes and regulations. Impacts are considered less than significant.

CALCITE SUBSTATION

Less than Significant Impact. The proposed Calcite Substation comply with applicable statutes and regulations related to solid waste including the California Integrated Waste Management Act of 1989. Therefore, impacts would be less than significant(California State Lands Commission 2021).

The *Stagecoach Solar Project Draft EIR* identified a less than significant impact associated with compliance to federal, state, and local regulations related to solid waste. Accordingly, no mitigation measures were identified. No changes to the analysis as a result of the Sienna Project are necessary.

Mitigation Measure(s)

SIENNA PROJECT

No mitigation measures are required.

CALCITE SUBSTATION

No mitigation measures are required.

Significance after Mitigation

SIENNA PROJECT

Impacts are considered less than significant. No mitigation measures are required.

CALCITE SUBSTATION

Impacts are considered less than significant. No mitigation measures are required.

This page is intentionally blank.

4 Other CEQA Considerations

This chapter addresses those topics requiring evaluation under *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.

4.1 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; and (3) significant irreversible environmental changes that would result from implementation of the proposed project. Each of these topics is discussed below.

4.2 Growth Inducing Impacts

In accordance with Section 15126.2(d) of the *CEQA Guidelines*, an EIR must:

> "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ...Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

Projects promoting direct growth will impose burdens on a community by directly inducing an increase in population or resulting in the construction of additional developments in the same area. For example, projects involving the expansion, modifications, or additions to infrastructure, such as sewer, water, and roads, could have the potential to directly promote growth by removing existing physical barriers or allowing for additional development through capacity increases. New roadways leading into a previously undeveloped area directly promote growth by removing previously existing physical barriers to development and a new wastewater treatment plant would allow for further development within a community by increasing infrastructure capacity. Because these types of infrastructure projects directly serve related projects and result in an overall impact to the local community, associated impacts cannot be considered isolated. Indirect growth typically includes substantial new permanent employment opportunities and can result from these aforementioned modifications.

4.2.1 Sienna Project

The Sienna Project is located within the unincorporated area of San Bernardino County and it does not involve the development of permanent residences that would directly result in population growth in the area. The unemployment rate in the Riverside-San Bernardino-Ontario Metropolitan Statistical Area (MSA) (Riverside and San Bernardino Counties), as of May 2023, was 4.4 percent (State of California Employment Development Department 2023). 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).Based on the unemployment rate and the availability of the local workforce, construction of the Sienna Project would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services.

Once construction is completed, the Sienna Project would require up to 15 full-time employees, with periodic on-site personnel visitations for security, maintenance and system monitoring. As the Sienna Project's PV arrays produce electricity passively, maintenance requirements are anticipated to be very minimal. Therefore, the Sienna Project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal. Security personnel may also conduct unscheduled security rounds and would be dispatched to the Sienna Project site in response to a fence breach or other alarm. It is anticipated that maintenance of the facilities would require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel washing. However, because of the nature of the facility, such actions would likely occur infrequently. Overall, minimal maintenance requirements are anticipated. The Sienna Project would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal.

While the Sienna Project would contribute to energy supply, which indirectly supports population growth, the Sienna Project is a response to the state's need for renewable energy to meet its Renewable Portfolio Standard, and while it would increase the availability of renewable energy, the Sienna Project would also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the Sienna Project is not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in SB 100 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The Sienna Project is being proposed in response to state policy and legislation promoting development of renewable energy.

The Sienna Project would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the Sienna Project would not foster any new growth because: (1) the additional energy would be used to ease the burdens of meeting existing statewide energy demands within and beyond the area of the Project site; (2) the energy would be used to support already-projected growth; or, (3) the factors affecting growth are so diverse that any potential connection between additional energy production and growth would necessarily be too speculative and uncertain to merit further analysis.

Under CEQA, an EIR should consider potentially significant energy implications of a project (CEQA Guidelines Appendix F(II); PRC Section 21100(b)(3)). However, the relationship between the Sienna Project's increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 CCR Section 15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in Napa Citizens for Honest Gov't v. Napa County Board of Supervisors, 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires

more than a general analysis of projected growth" *Napa Citizens, 91* CA4th at 369. The problem of uncertainty of the proposed Project's growth-inducing effects cannot be resolved by collection of further data because of the diversity of factors affecting growth.

While this document has considered that the Sienna Project, as an energy project, might foster regional growth, the particular growth that could be attributed to the Sienna Project is unpredictable, given the multitude of variables at play, including uncertainty about the nature, extent, and location of growth and the effect of other contributors to growth besides the Sienna Project. No accurate and reliable data is available that could be used to predict the amount of growth outside the area that would result from the Sienna Project's contribution of additional electrical capacity. The County of San Bernardino has not adopted a threshold of significance for determining when an energy project is growth-inducing. Therefore, further evaluation of this impact is not required under CEQA.

Additionally, the Sienna Project would not involve the development of any new roadways, new water systems, or sewers. Thus, the Project would not further facilitate additional development into outlying areas. For these reasons, the Sienna Project is not considered growth-inducing.

4.2.2 Calcite Substation

According to Chapter 6.0, Other Required CEQA Issues and Environmentally Superior Alternative, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation would be unstaffed and would not require that SCE hire additional personnel. The facilities would be maintained and operated by existing employees. Therefore, no new employees would be required, and no new population growth would result from the presence of the new substation.

Residences in the Lucerne Valley are currently adequately served by the existing SCE electric distribution system from the SCE Thorn Substation (on SR-247 just north of Old Woman Springs Road) and this substation is connected to the SCE Cottonwood Substation (approximately 7 miles southeast of the center of the Lucerne Valley community). The SCE Calcite Facilities would not interconnect with the distribution lines that serve local load. The presence of the SCE Calcite Facilities would be unlikely to lead to construction of additional infrastructure or housing that would encourage population growth (California State Lands Commission 2021).

4.3 Significant and Unavoidable Impacts

4.3.1 Sienna Project

Section 15126.2(b) of the CEQA Guidelines requires that an EIR discuss any significant impacts associated with a project. Sections 3.2 through 3.15, and Section 6.0, Effects Found Not to be Significant, of this EIR describe the potential environmental impacts of the Sienna Project and recommend mitigation measures to reduce impacts to a less than significant level where feasible.

The Executive Summary of this EIR summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. After thorough study and environmental review, as provided in this EIR, it was determined that Project-level impacts would not result in any significant and unavoidable impacts. All potentially significant impacts, after implementation of proposed mitigation measures, would be reduced to a less than significant level. However, as described in Chapter 5.0, Cumulative Impacts, although cumulative projects located within private lands and/or under the jurisdiction of the County of San Bernardino would be designed in accordance with the County's Policy Plan, which includes policies to protect visual resources in the County, and San Bernardino County

Development Code, for many travelers along SR 247, the scenic experience would be substantially degraded due to the perceived "industrialization" of the landscape. This is considered a cumulatively considerable impact and would result in a significant and unavoidable impact.

4.3.2 Calcite Substation

According to Chapter 6.0, Other Required CEQA Issues and Environmentally Superior Alternative, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed SCE Calcite Substation and associated facilities would result in the following significant and unavoidable impacts:

- **Aesthetics/Light and Glare Impact ALG-6:** Long-term presence of the Project would result in landscape changes that degrade existing visual character or quality (long-term impact).
- **Air Quality Impact AQ-1:** Air pollutant emissions from construction and O&M (short- term construction impact from PM_{10}).
- **Energy Impact EN-2:** The SCE Calcite Facilities would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.
- **Land Use and Planning Impact LU-2:** The SCE Calcite Facilities would conflict with the County's adopted RECE.
- **Public Services, Utilities, and Service System Impact PSU-1:** (If constructed concurrently with the Stagecoach Facilities) The County's population would not increase due to construction and operation of the SCE Calcite Facilities, and they would not create the need for new public service facilities. However, emergency response times may be severely inhibited by construction traffic (short-term impact during construction).
- **Traffic and Transportation Impact TRA-1:** (If constructed concurrently with the Stagecoach Facilities) Traffic volumes associated with construction of the SCE Calcite Facilities would substantially affect the circulation system (short-term impact during construction).
- **Traffic and Transportation Impact TRA-4:** (If constructed concurrently with the Stagecoach Facilities) SCE Calcite Facilities construction activities would affect emergency vehicle response (short-term impact during construction) (California State Lands Commission 2021).

4.4 Significant and Irreversible Impacts

4.4.1 Sienna Project

In accordance with CEQA Guidelines Section 15126.2(c), an EIR must identify any significant irreversible environmental changes that would be caused by implementation of the proposed project being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-renewable resources or secondary growth-inducing impacts that commit future generations to similar uses.

Energy resources needed for the construction of the Sienna Project would contribute to the incremental depletion of renewable and non-renewable resources. Resources, such as timber, used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources, such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials, are typically considered finite and would not be

replenished over the lifetime of the Sienna Project. Thus, the Sienna Project would irretrievably commit resources over the anticipated 30-year life of the Project.

At the end of the Sienna Project's operational term, the Applicant may determine that the Project should be decommissioned and deconstructed. Should the Sienna Project be decommissioned, the Project Applicant is required to restore land to its pre-Project state. Consequently, some of the resources on the site could potentially be retrieved after the site has been decommissioned. Concrete footings, foundations, and pads would be removed and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. The Applicant anticipates using the best available recycling measures at the time of decommissioning. Furthermore, Project decommissioning would be carried out in compliance with the County of San Bernardino Development Code Section 84.29.070, Decommissioning Requirements.

Implementation and operation of the Sienna Project would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the Sienna Project is consistent with the State's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-State renewable electricity generation facility" in Section 25741 of the California PRC.

4.4.2 Calcite Substation

According to Chapter 6.0, Other Required CEQA Issues and Environmentally Superior Alternative, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), construction activities would require short-term use of fossil fuels. However, in the context of local, regional, and global energy consumption, the proposed use of non- renewable fossil fuels associated with the proposed Calcite Substation and associated facilities would not be considered a large commitment for the use of such resources and would not contribute to the continued use of and reliance upon such non-renewable resources.

Implementation of the proposed Calcite Substation would result in various forms of environmental damage to the land from construction activities. This damage would occur during construction of the Project. In the desert environment, this type of damage can take many years to recover.

Hazardous materials typical of construction projects would be used and stored in construction staging areas (e.g., gasoline, diesel fuel, oil, lubricants, paints, solvents, detergents, degreasers, pesticides, herbicides). Hazardous materials could be released during construction as a result of improper handling, accidental spills or leaks, and/or due to leaking equipment or vehicles and could result in soil or water contamination. MM HAZ-1, as described in Section 4.9, Hazards and Hazardous Materials, of the *Stagecoach Solar Project Draft EIR,* requires specific processes and response procedures to minimize these effects, but the potential for hazardous leaks to affect soil and water quality occur remains (California State Lands Commission 2021).

This page is intentionally blank.

5 Cumulative Impacts

The *CEQA Guidelines* (Section 15355) define a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The *CEQA Guidelines* [Section 15130(a)(1)] further states that "an EIR should not discuss impacts which do not result in part from the project."

Section 15130(a) of the *CEQA Guidelines* provides that "[A]n EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable..." Cumulatively considerable, as defined in Section 15065(a)(3), "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

An adequate discussion of significant cumulative impacts requires either: (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or (2) "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact."

The *CEQA Guidelines* recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The Lead Agency must identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable (*CEQA Guidelines* Section 15130(a)(3)).

This EIR evaluates the cumulative impacts of the Project for each resource area, using the following steps:

1. Define the geographic and temporal scope of cumulative impact analysis for each cumulative effects issue, based on the Project's reasonably foreseeable direct and indirect effects.
2. Evaluate the cumulative effects of the Project in combination with past and present (existing) and reasonably foreseeable future projects and, in the larger context of the Mojave Desert.
3. Evaluate the Project's incremental contribution to the cumulative effects on each resource considered in Chapter 3, Environmental Analysis. When the Project's incremental contribution to a significant cumulative impact is considerable, mitigation measures to reduce the Project's "fair share" contribution to the cumulative effect are discussed, where required.

5.1 Geographic Scope and Timeframe of the Cumulative Effects Analysis

The geographic area of cumulative effects varies by each resource area considered in Chapter 3. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more localized. Similarly, impacts on the habitats of special-status wildlife species need to be considered within its range of movement and associated habitat needs.

The analysis of cumulative effects in this EIR considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a project, but not beyond the scope of the direct and indirect effects of that project.

Evaluating the Sienna Project's cumulative impacts when future facility decommissioning occurs is highly speculative because decommissioning is expected to occur in 30 years' time. Therefore, cumulative impacts during decommissioning are speculative for detailed consideration in this analysis.

5.2 Projects Contributing to Potential Cumulative Impacts

The *CEQA Guidelines* identify two basic methods for establishing the cumulative environment in which the projects are to be considered: The use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (the "plan approach").

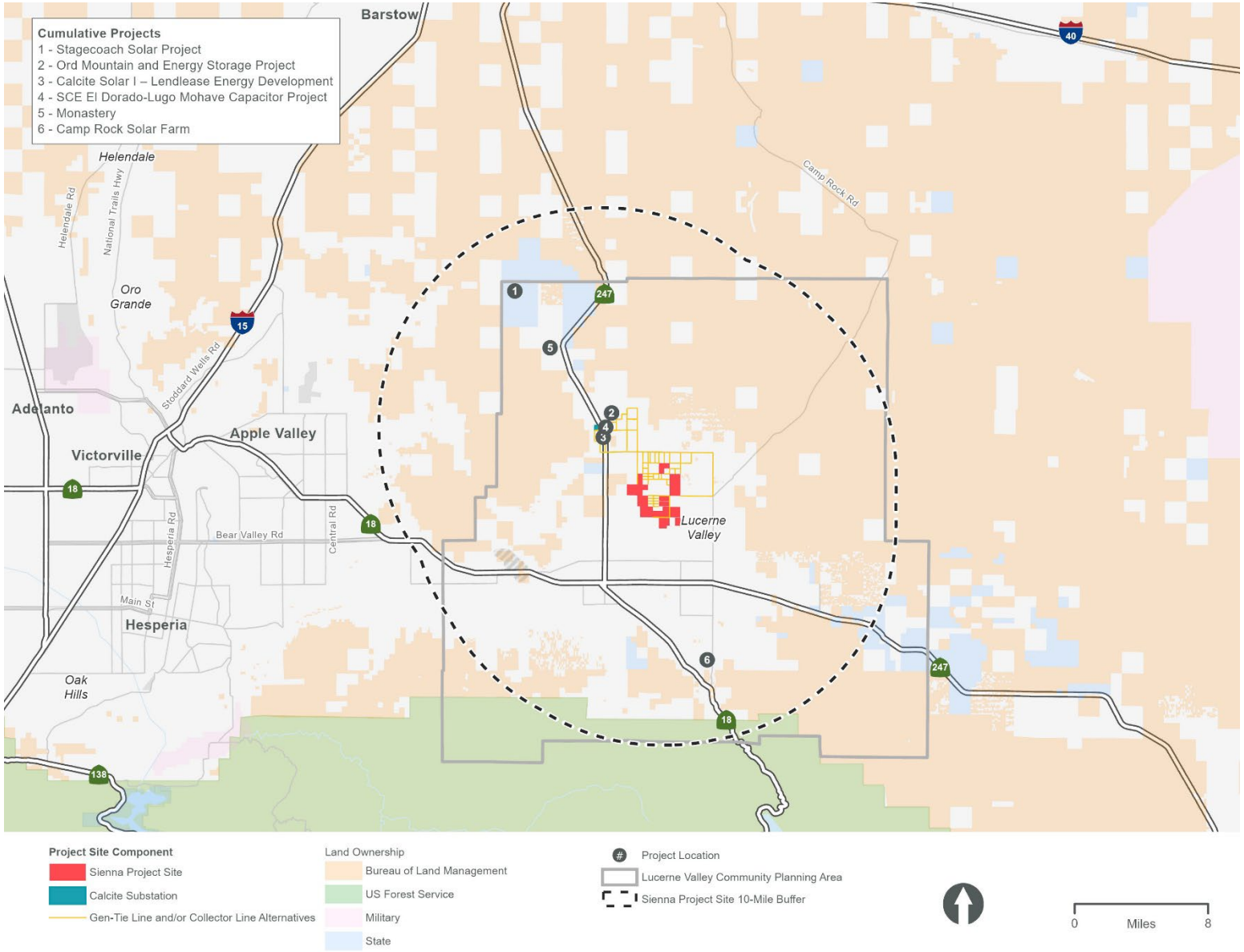
For this EIR, the list approach has been utilized to generate the most reliable future projections of possible cumulative impacts. When the impacts of the Sienna Project are considered in combination with other past, present, and future projects to identify cumulative impacts, the other projects considered may also vary depending on the type of environmental impacts being assessed. Information has been collected on foreseeable projects located in the vicinity of the Sienna Project, including solar development and other project types. A radius of 10 miles was chosen since this captures any proposed development throughout Lucerne Valley (Table 5-1). Table 5-1 includes both solar and non-solar development proposals. Figure 5-1 provides the general location for each of these projects in relation to the Sienna Project site.

Table 5-1. Cumulative Projects within 10 Miles of Sienna Project

Map No.	Project Name	Location	Description	Status
1	Stagecoach Solar Project	Approximately 15 miles south of City of Barstow and 12 miles northwest of unincorporated community of Lucerne Valley	The project would produce up to 200 megawatts (MW) of solar energy using photovoltaic (PV) technology. The proposed Project area encompasses approximately 3,000 acres, with PV modules and associated infrastructure to be constructed on approximately 1,950 acres. The proposed Project also includes construction of a 9.1-mile-long 220 kV generation intertie (gen-tie) transmission line to carry the electricity generated by the solar facility to the regional transmission system interconnection at the SCE Calcite Facilities, including the substation.	Draft EIR published in October 2021
2	Ord Mountain and Energy Storage Project	Lucerne Valley: east of SR-247, along Desert Lane, west of Meridian Road	Solar PV project on 484 acres, 60 MW. This project would include a 4-hr energy storage battery system and an overhead 0.6-mile gen-tie line that would connect to the proposed SCE Calcite Facilities.	Draft EIR published October 2018. Application subsequently placed on hold by Applicant.
3	Calcite Solar I – Lendlease Energy Development, LLC	Lucerne Valley: four separate sites near the intersection of Northside Road and SR-247	Solar PV project on 664 acres, 100 MW. The project includes four noncontiguous locations and would connect to the proposed SCE Calcite Facilities.	NOP issued in January 2019. Application subsequently placed on hold by Applicant.
4	SCE Eldorado-Lugo Mohave Capacitor Project	San Bernardino County, CA, and Clark County, NV	The only elements of this project occurring in Lucerne Valley would be replacement of the existing ground wire at the apex of existing transmission towers and construction of an optic repeater station in the transmission corridor on Fern Road, east of SR-247 and north of Haynes Road. This repeater would be located under the existing transmission lines. Other components extend from the Lugo Substation (Hesperia) to the Mohave and Eldorado Substations (Nevada).	Approved by CPUC, BLM, and NPS; construction underway in 2021.
5	Monastery, P201700152	Lucerne Valley: West of SR-247, 21010 Lucerne Valley Cutoff	Revision to an approved action for a phased project to build a 14,000-sf hall (Phase I) and a 14,165-sf residence to house monastery residents (Phase II) on approximately 117 acres.	Construction in progress
6	Camp Rock Solar Farm LLC	Lucerne Valley: West side of Camp Rock Road, 650 ft. south of Bauer Road	Solar PV project on 20 acres, 4 MW	Under review; no activity since 2017

7	SCE Eldorado-Pisgah-Lugo Project: Segment 1 and 2	Unincorporated San Bernardino County and City of Hesperia	In Segments 1 and 2, portions of the Lugo-Pisgah No. 1 220 kV transmission line will be reconductored, inter-set structures will be installed, and shorter insulator assemblies will be installed.	Initial planning phase; Construction anticipated in May 2025

Figure 5-1. Cumulative Projects



This page is intentionally blank.

5.3 Cumulative Impact Analysis – Sienna Project

This cumulative impact analysis utilizes the list method (as defined under CEQA) and considers environmental effects associated with those projects identified in Table 5-1 in conjunction with the impacts identified for the Sienna Project in Chapter 2 of this EIR. Table 5-1 includes projects known at the time of release of the NOP of the Draft EIR. Figure 5-1 provides the general location for each of these projects in relation to the Sienna Project site.

5.3.1 Aesthetics

The geographic scope for the analysis of cumulative impacts on aesthetics and visual resources includes both the local viewshed within a one-mile radius of the Project Site and 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 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.

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

The grand scale of the open desert panoramas impart an overall general impression of a relatively unimpaired, isolated desert landscape. The cumulative scenario includes large-scale solar generation plants with gen-tie lines (Stagecoach Solar Project, Calcite Solar I, Ord Mountain and Energy Storage Project) whose scale and industrial character would have cumulative effects. If all the projects were implemented, they would substantially degrade the visual character and general scenic appeal of the existing landscape visible from SR 247, a State-Eligible and County-Designated Scenic Highway, as well as from scattered rural residences. The result would be the conversion of a relatively undeveloped desert landscape into one with an industrialized appearance. Although projects located within private lands and/or under the jurisdiction of the County of San Bernardino would be designed in accordance with the County’s Policy Plan, which includes policies to protect visual resources in the County, and San Bernardino County Development Code, for many travelers along SR 247, the scenic experience would be substantially degraded due to the perceived “industrialization” of the landscape.

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.

5.3.2 Agricultural Resources

As indicated in the *County of San Bernardino Countywide Plan EIR*, agricultural use in the County has declined over the last several decades as the result of urban expansion and economic conditions (San Bernardino County 2019). Agricultural development is typically located in areas where relatively level terrain and stable soil conditions are present. However, for these reasons, such lands are also desirable (and economically valuable) for urban development. As urban growth encroaches into agricultural areas, the remaining agricultural operations often become surrounded by urban-type activities.

As explained in Section 3.3, Agricultural Resources, development of the Sienna Project site would temporarily convert approximately 456.80 acres of Farmland of Statewide Importance for non-agricultural use. While the conversion of this acreage to non-agricultural use would contribute to a loss of the County's agricultural resources, the contribution is not cumulatively considerable relative to the County's overall stock of agricultural resources. Additionally, following required decommissioning of the solar PV facility after its useful life, potential exists to return the Project site to agricultural use. For these reasons, the Project's contribution to cumulative impacts associated with agricultural resources would not be considerable and would be less than significant.

5.3.3 Air Quality

The geographic scope of cumulative air quality impacts is the Mojave Desert Air Basin (MDAB). The MDAB consists of the desert portions of northwestern Los Angeles County, eastern Kern County, northeastern Riverside County, and San Bernardino County, and encompasses all of the cumulative projects (Table 5-1). The MDAQMD has jurisdiction within the MDAB and monitors and regulates its local air quality.

As shown in Table 5-1, the majority of the cumulative projects are large-scale renewable energy generation projects, where the main source of air emissions would be generated during construction. However, two of the projects (Ord Mountain and Energy Storage Project, Calcite Solar I – Lendlease Energy Development, LLC,) are currently on hold, one project (Camp Rock Solar Farm LLC) is under review, one project (SCE Eldorado-Pisgah-Lugo Project: Segment 1 and 2) is in the planning phase, two projects are currently under construction (SCE Eldorado-Lugo Mohave Capacitor Project and Monastery, P201700152). There is a possibility that the projects on hold and under review could be constructed at the same time as the Sienna Project.

From a cumulative air quality standpoint, the potential cumulative impact associated with the generation of O_3, $PM_{2.5}$ and PM_{10} emissions during construction of the cumulative projects is a consideration because the portion of the MDAB overseen by the MDAQMD is designated severe nonattainment for the federal eight-hour O_3 standard, federal 24-hour PM_{10} standard (San Bernardino County only), state O_3 standard, state PM_{10} standard, and state $PM_{2.5}$ standard under existing conditions. However, the cumulative projects would be required to comply with MDAQMD's rule for fugitive dust control (Rule 403 applies to both the construction and operational phases of projects) and would be required to prepare and implement operational dust control plans as approved by the MDAQMD for compliance with all federal and state air quality standards. Similar to the Sienna Project, the cumulative projects would also be required to reduce potentially significant air quality impacts to the extent practicable under CEQA.

Operational impacts of other renewable energy facilities identified in Table 5-1 would also be similar. Although these cumulative projects generally involve large areas, their operational requirements are very minimal, requiring minimal staff or use of machinery or equipment that generate emissions.

Further, alternative energy projects, such as the Sienna Project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources.

Based on the evaluation above, cumulative impacts to air quality, while potentially significant, are anticipated to be reduced to a level that is considered less than cumulatively considerable with implementation of State-required mitigation.

As discussed in Section 3.4, Air Quality, the Sienna Project would be required to comply with MDAQMD Rule 403 and San Bernardino County Development Code Section 84.29.035 to control fugitive dust along with the San Bernardino County Development Code Section 83.01.040 to reduce exhaust emissions during construction. With implementation of the required water control measures, PM_{10} emissions would not exceed MDAQMD's threshold of 15 tons per year. Therefore, all construction-related criteria pollutant emissions would not exceed the applicable MDAQMD thresholds, and the Project's incremental contribution to cumulative construction air quality impacts would not be cumulatively considerable and would be less than significant.

5.3.4 Biological Resources

Table 5-1 lists the projects considered for the biological resources cumulative impact analysis. 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 in Section 3.5, Biological Resources, the Project-specific impacts of the Sienna Project would be less than significant with implementation of Mitigation Measures BIO-1 through BIO-8.

There are a number of special-status species, both plants and wildlife, that currently utilize the Project area and/or surrounding vicinity. Implementation of the Sienna Project, along with related projects, have the potential to impact transient wildlife species, including burrowing owls, loggerhead shrike, burrowing owls, other raptors, migratory birds, Mojave ground squirrel, desert kit fox, and desert tortoise.

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 Sienna 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.

Due to the relatively low-maintenance operational nature of solar energy facilities, no operational impacts to biological resources are anticipated following construction, and the Project's contribution to cumulative operational impacts would not be cumulatively considerable and would be less than significant.

5.3.5 Cultural Resources

Table 5-1 lists the projects considered for the cultural resources cumulative impact analysis. Construction and (to a lesser extent) operation of solar facilities within the county has the potential to directly damage cultural resources, including historic resources, archaeological resources, and human remains within the County. However, cumulative projects would be required to avoid or minimize impacts to cultural and tribal resources to the extent practicable pursuant to federal and State law, including CEQA.

As discussed in Section 3.6, Cultural Resources, given that the Sienna 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 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 Sienna Project would be required to comply with Mitigation Measures CR-1 through CUL-4 and regulations cited above in the event resources are found, thus reducing significant impacts on archaeological resources to less than significant levels. Therefore, the Sienna Project's contribution to cumulative impacts associated with archaeological resources would not be considerable.

5.3.6 Geology and Soils

Table 5-1 lists the projects considered for the cumulative impact analysis. 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 Sienna 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 Sienna Project. Therefore, considering the existing regulatory requirements and regulations that would apply to all development, the Sienna 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 Sienna Project, would ensure that cumulative effects from cumulative projects are considered less than significant.

The Sienna Project would be required to comply with Mitigation Measures GEO-2 and GEO-3 to reduce the potential for significant impacts on paleontological resources to less than significant levels. Therefore, the Sienna Project's contribution to cumulative impacts associated with paleontological resources would not be considerable and would be less than significant.

5.3.7 Greenhouse Gas Emissions

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 Sienna 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 Sienna 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 not be considerable and would be less than significant.

5.3.8 Hazards and Hazardous Materials

Hazards and hazardous materials impacts are typically highly localized and site specific. The EIR evaluates potential environmental concerns in connection with the Sienna 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 other solar PV projects may include similar battery storage systems, similar to the Sienna 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 Sienna Project related to hazards and hazardous materials, are anticipated to be minimal, and any effects would be site-specific. Therefore, the Sienna 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. As such, the Sienna Project would not result in cumulatively considerable impacts to or from hazards or hazardous materials and would be less than significant.

5.3.9 Hydrology and Water Quality

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 Sienna Project, cumulative projects would also be subject to the same regulatory requirements, including, where applicable, NPDES permits and other discharge requirements. 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 Sienna 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 Sienna 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 Sienna Project's and cumulative projects' 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 Sienna Project, cumulative projects would similarly not be located within a tsunami zone or seiche zones. Thus, there would be no cumulative potential for risk of release of pollutants within these zones. Accordingly, the Sienna 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.

5.3.10 Land Use and Planning

Cumulative land use and planning impacts may occur when project-specific impacts evaluated in an EIR are combined with the effects of other projects which, when examined individually, may not be considered to be significant. Projects depicted in Table 5-1 were included in review of the potential for significant cumulative land use impacts. The inclusion of all projects in Table 5-1 was based on the location of these projects in the general site vicinity and the possibility that these projects, in combination with the proposed Project, may conflict with their respective land use plans and policies.

As discussed in Section 3.11, Land Use and Planning, the Sienna Project would not physically divide an established community and would not conflict with the goals and objectives of the Policy Plan. Similarly, it is not anticipated that any of the cumulative projects identified in Table 5-1 would result in land use conflicts. If incompatibilities or land use conflicts are identified for any of the cumulative projects, the County would require mitigation to avoid or minimize this type of land use impact. Therefore, no cumulatively considerable land use and planning impacts would occur and the Sienna Project's incremental contribution to cumulative impacts is considered less than cumulatively considerable.

5.3.11 Noise and Vibration

The Sienna 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 Sienna Project would contribute to other proximate construction project noise impacts if construction activities were conducted concurrently. However, based on the noise analysis contained in Section 3.12, Noise and Vibration, the Sienna Project's construction-related noise impacts would be reduced to a less than significant level with implementation of Mitigation Measure NOI-1 and would be required to comply with the San Bernardino County Development Code.

The combination of the Sienna 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.

Operation of the Sienna 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.

5.3.12 Transportation

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 Sienna Project would not be inconsistent and would not conflict with the programs, plans, policies, and ordinances, the Sienna 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 Sienna 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 Sienna Project would result in a less than significant impact on VMT, the Sienna 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 Sienna 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 Sienna Project's potential contribution to cumulative impacts associated with hazardous design conditions would not be considerable.

With regard to emergency access, the Sienna Project would not result in a significant impact. The Sienna Project site and the surrounding area are developed with existing roadway networks, with existing routes for emergency vehicles and evacuation. Similar to the Sienna 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 Sienna Project. Therefore, the Sienna Project's potential contribution to cumulative impacts associated with emergency access would not be considerable.

5.3.13 Tribal Cultural Resources

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 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 Sienna 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.

5.3.14 Utilities and Service Systems

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. Water supply for the Sienna Project would either be sourced from the underlying groundwater basin, using existing water extraction rights associated with the subject properties, or it would be purchased from a local retail supplier and trucked to the site. Connection to a public water service system would not occur. Therefore, the Sienna 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, 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. As discussed in Section 3.15, Utilities and Service Systems, there is sufficient water supply available to meet the Sienna Project's potential water demands under normal-year, single-dry-year, and multiple-dry-year conditions through horizon year 2055. Furthermore, several of the parcels within the Sienna Project area currently account for a sizeable portion of the total amount of water consumed in the Este Subarea. Because the Sienna Project would replace existing uses with less water-intensive uses, and the water demand projections in the MWA's UWMP are based upon the current, more water-intensive uses, it can be inferred that the Project's water demands are fully accounted for in the UWMP. Therefore, the Sienna Project's contribution to cumulative impacts associated with water supply would not be considerable and would be less than significant.

5.4 Cumulative Impact Analysis – Calcite Substation

Table 5-2 summarizes the proposed Calcite Substation's potential cumulative impacts, as described in the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235) (California State Lands Commission 2021).

Table 5-2. Summary of Cumulative Impacts – Proposed Calcite Substation

Environmental Topic	Cumulatively Considerable Impact
Aesthetics	
Impacts ALG-1, ALG-3, and ALG-4: Construction Equipment and Markings	No; with implementation of mitigation measures
Impact ALG-5: New Sources of Nighttime Light and Glare	No; with implementation of mitigation measures
Impacts ALG-2 and ALG-6: Long-term Presence of the Project Would Degrade Existing Visual Character	Yes
Air Quality	
Impacts AQ-1 and AQ-3: Air Pollutant Emissions and Exposure of Sensitive Receptors to Toxic Air Pollutants	No; with implementation of mitigation measures
Biological Resources	
Impact BIO-1: Substantially Reduce Habitat for a Fish or Wildlife Species	No; with implementation of mitigation measures
Impact BIO-2: Substantially Affect State or Federally Listed Plants or Their Habitat	No; with implementation of mitigation measures
Impact BIO-3: Substantially Affect Protected Wildlife Species	No; with implementation of mitigation measures
Impacts BIO-4 and BIO-5: Cause Take of Protected Nesting Birds or Create Collision or Electrocution Risk for Birds or Bats	No; with implementation of mitigation measures
Impacts BIO-6 and BIO-7: Remove or Degrade Riparian Vegetation, or Substantially Affect Jurisdictional Wetlands or Waters of the U.S.	No; with implementation of mitigation measures
Impact BIO-8: Wildlife Movement	No; with implementation of mitigation measures
Cultural Resources	
Impacts CUL-1 and CUL-2: Substantial Adverse Change in Significance of a Historical or Archaeological Resource	Yes
Cultural Resources – Tribal	
Impact TCR-1: Change in Significance of a Tribal Cultural Resource	No; with implementation of mitigation measures
Energy	
Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources	No; no mitigation is required

Impact EN-2: Conflict With or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency	No; no mitigation is required
Geology and Soils	
Impacts GEO-5 and GEO-6: Construction Could Trigger or Accelerate Soil Erosion or Slope Failure	No; with implementation of mitigation measures
Hazards and Hazardous Materials	
Impacts HAZ-1, HAZ-2, and HAZ-3: Potential to Encounter Hazardous Materials or UXO	No; with implementation of mitigation measures
Impact HAZ-4: Valley Fever Spores Could be Mobilized	No; with implementation of mitigation measures
Hydrology and Water Quality	
Impact HWQ-1: Violate Water Quality Standards or Requirements or Substantially Degrade Surface or Groundwater Quality	No; with implementation of mitigation measures
Impact HWQ-2: Substantially Deplete Groundwater Supplies or Interfere with Groundwater Recharge	No; with implementation of mitigation measures
Impact HWQ-3: Substantially Alter Existing Drainage Allowing Substantial Erosion, Siltation, Increased Surface Runoff or Affecting Flood Flows	No; with implementation of mitigation measures
Impact HWQ-4: Risk Release of Pollutants Due to Site Inundation	No; with implementation of mitigation measures
Impact HWQ-5: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan	No; with implementation of mitigation measures
Land Use and Planning	
Impact LU-1: Physically Divide an Established Community	No; no mitigation is required
Impact LU-2: Conflict with a Land Use Plan, Policy, or Regulation Adopted to Avoid or Mitigate an Environmental Effect	Yes
Noise and Vibration	
Impacts NOI-1, NOI-2, and NOI-3: Construction or Operation Noise Exceeding Community Standards	No; with implementation of mitigation measures
Impact NOI-4: Vibration Impacts to Sensitive Receptors	No; no mitigation is required
Paleontological Resources	
Impact PAL-1: Destroy a Unique Paleontological Resource or Site	No; with implementation of mitigation measures
Population and Housing	
Impact POP-1: Cause Substantial Population Growth	No; no mitigation is required

Impact POP-2: Displace Substantial Numbers of People or Existing Housing	No; no mitigation is required
Public Services, Utilities, and Service Systems	
Impact PSU-1: Require New or Altered Governmental Facilities or Would Inhibit Maintenance of Acceptable Service Rations and Response Times for Public Services	Yes
Impact PSU-2: Require New or Relocated Utilities and Service Systems or Place Excess Demands on Local Water, Wastewater, and Solid Waste Facilities	No; no mitigation is required
Traffic and Transportation	
Impact TRA-1: Conflict with a Plan, Ordinance, or Policy Addressing the Circulation System	Yes
Impact TRA-2: Increase Vehicle Miles Travelled	No; no mitigation is required
Impact TRA-3: Substantially Increase Traffic Hazards Due to Design Features or Incompatible Uses	No; with implementation of mitigation measures
Impact TRA-4: Result in Inadequate Emergency Access	Yes
Wildfire	
Impact WIL-1: Require the Installation or Maintenance of Infrastructure that May Exacerbate or Create Wildfire Risk	No; with implementation of mitigation measures
Impact WIL-2: Expose People or Structures to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires	No; with implementation of mitigation measures

Source: California Public Lands Commission 2021

6 Effects Found Not Significant

In accordance with Section 15128 of the *CEQA Guidelines*, an EIR must contain a statement briefly indicating the reasons that various potential significant effects of a project were determined not to be significant.

6.1 Sienna Project

Based on the Initial Study and Notice of Preparation prepared for the Sienna Project, San Bernardino County has determined that the Sienna Project would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR. However, the rationale for eliminating these topics is briefly discussed below.

6.1.1 Forestry Resources

No portion of the Sienna Project site or the immediate vicinity is zoned or designated as forest lands, timberlands, or for timberland production. As such, the Sienna Project would not conflict with existing zoning or cause the need for a zone change specifically related to agriculture or 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)). Therefore, implementation of the Sienna Project would not impact forestry resources.

6.1.2 Energy

While construction of the Sienna Project would require the consumption of non-renewable energy resources, construction would be short-term, lasting approximately 12 to 24 months, and is not anticipated to result in the wasteful or inefficient use of energy. Upon operation, the Sienna Project would generate approximately 1,175 gigawatts (GWh) of electricity each year or approximately 35,240 GWh over the Project's 30-year lifetime (see Appendix C of this EIR). This additional solar-generated, renewable energy would be added to the power grid and would indirectly cause the replacement of fossil fuel energy production facilities, thereby displacing criteria pollutants created by existing power generation sources, a key environmental benefit.

Additionally, Project operation would require up to 15 full-time employees, and the only operational emissions associated with the Project would be associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. Fuel consumption associated with the vehicle trips generated by the Sienna Project during ongoing maintenance activities would be negligible and would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Based on the evaluation above, the operations-related electricity use would provide a significant renewable resource for the County and would help achieve the State's Renewable Portfolio Standards requirement for non-carbon sources of electricity. Therefore, the Sienna Project would not result in the wasteful or inefficient consumption of energy or conflict with a renewable energy plan.

6.1.3 Mineral Resources

According to the Countywide Plan Policy Map NR-4 Mineral Resources Zones, a portion of the Sienna Project's proposed gen-tie line and/or collector line route (along Northside Road and Haynes Road) traverses an area mapped as Mineral Resource Zone 3, which is an area with moderate potential or possible location for industrial minerals[1]. However, based on a review of the California Department of Conservation's Mines Online Interactive Map[2], no mines have been mapped in the Sienna Project area, including the proposed gen-tie line and/or collector line route. Furthermore, based on a review of the California Geologic Energy Management Division's Well Finder Interactive Map[3], there are no active oil wells within the Sienna Project site. Therefore, the Sienna Project would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the Project result in the loss of availability of a locally important mineral resource.

6.1.4 Population and Housing

The construction period for the Sienna Project is anticipated to occur over 12 to 24 months, utilizing an estimated (up to) 500 workers per day (during peak construction periods). Development of housing is not proposed as part of the Sienna Project. Construction activities would be temporary and would not attract new employees to the area. It is expected that the Sienna Project would require an operational staff of up to 15 full-time employees. The solar facility would operate seven days a week, 24 hours a day. Maintenance activities may occur seven days a week, 24 hours a day to ensure PV panel output when solar energy is available. Therefore, the Sienna Project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal. Existing development in the Project area include scattered rural residences and accessory structures. While there are several residences located in the southern portion of the Project site, these structures are vacant under existing conditions and implementation of the Sienna Project would not result in the displacement of substantial numbers of existing housing. The construction of replacement house elsewhere would not be required. Based on the evaluation above, the Sienna Project would not impact population and housing.

6.1.5 Public Services

Fire Protection. The Sienna Project site is located within District 5 of the San Bernardino County Fire Protection District. The nearest fire station to the site is San Bernardino County Fire Station No. 8, located at 33269 Old Woman Springs Road in Lucerne Valley and is approximately 3.5 miles southwest of the site.

During Project construction, fire protection may be required. However construction would be temporary and anticipated to take 12 to 24 months. Because of the low probability and short-term nature of potential fire protection needs during construction, the Sienna Project would not result in significant impacts. During operations and maintenance, the Sienna Project would introduce potential

---

[1] San Bernardino Countywide Plan, NR-4: "Mineral Resource Zones". Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=9948b9bc78f147fd9ea193c2ce758081. Accessed October 26, 2022.

[2] California Department of Conservation's Mines Online Interactive Map. Available on-line at: https://maps.conservation.ca.gov/mol/index.html. Accessed October 26, 2022.

[3] California Geologic Energy Management Division. Well Finder Interactive Map. Available on-line at https://maps.conservation.ca.gov/doggr/wellfinder/#openModal. Accessed October 26, 2022.

ignition sources that do not currently exist on the site. However, on-area fire protection would be provided via portable and fixed fire suppression systems throughout each of the Project phases. Portable fire extinguishers would be provided at various locations throughout the solar facility, while fixed fire suppressions systems would be available in the form of dedicated storage tank(s). Water from the on-area water storage tank would be intended for the fire protection of the O&M building. The PV modules and ancillary equipment are constructed of fire-resistant material. Additionally, routine weed abatement and landscape maintenance would occur as necessary. As such, the Project represents a negligible increase in fire potential.

In addition, access and service roads (along the perimeter of the Project facilities) would have turnaround areas to allow clearance for fire trucks per fire department standards. A Fire Management Plan would be prepared in accordance with Fire Department requirements for access and will not impact the ability to provide emergency access to the Project. The Sienna Project would be constructed in compliance with requirements from San Bernardino County Fire (conditions of approval) and would be subject to payment of Public Safety Public Safety Services Impact Fees in conformance with San Bernardino County Development Code Section 84.29.040(d) for solar facilities to ensure that the Project would not adversely affect the provision of fire protection services in the area.

The Sienna 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 fire protection services. Potential impacts to fire protection services would be less than significant.

Police Protection. The Sienna Project area and other unincorporated portions of the County are served by the San Bernardino County Sheriff's Department located approximately 2 miles southwest of the site. Although the potential is low, the Sienna Project may attract vandals or other security risks and the increase in construction related traffic could increase demand on law enforcement services. However, the Sienna Project area would be enclosed within a chain link fence measuring up to eight feet in height from finished grade. An intrusion alarm system comprised of sensor cables integrated into the perimeter fence, intrusion detection cabinets placed approximately every 1,500 feet along the perimeter fence, and an intrusions control unit, located either in the substation control room or at the O&M building, or similar technology, may be installed. Additionally, the Sienna Project may include additional security measures including, but not limited to, warning reflective signage, controlled access points, security camera systems, and security guard vehicle patrols to deter trespassing and/or unauthorized activities that could interfere with operation of the Project. Controlled access gates would be maintained at the main entrances to the Sienna Project site. Project area access would be provided to offsite emergency response teams that respond in the event of an after-hours emergency. Enclosure gates would be manually operated with a code or key provided in an identified key box location.

The Sienna Project would be subject to the payment of Public Safety Public Safety Services Impact Fees in conformance with San Bernardino County Development Code Section 84.29.040(d) for solar facilities to ensure that the Project would not adversely affect the provision of police protection services in the area. Therefore, the Sienna 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, in order to maintain acceptable service ratios, response times or other performance objectives for any police protection services. Potential impacts to police protection services would be less than significant.

Schools. The demand for new or expanded school facilities and services is determined by permanent increases to the local population. Implementation of the Sienna 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 Sienna Project would result in a temporary increase of up to 500 workers per day during peak construction activities, due to the temporary 12 to 24-month construction period, workers are not anticipated to temporarily relocate their families to the area and enroll their children in area schools.

The Sienna Project would require up to 15 full-time employees. Employees would be sourced locally and, therefore, the potential to increase population in the Project vicinity is low. 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 Sienna 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.

Parks and Other Public Facilities. The construction period for the Sienna Project is anticipated to occur over 12 to 24 months, utilizing an estimated (up to) 500 workers per day (during peak construction periods). Development of housing is not proposed as part of the Sienna Project. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. The proposed Project would require up to 15 full-time employees. Employees would be sourced locally and, therefore, the potential to increase population in the Project vicinity is low. The Sienna 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.

6.1.6 Recreation

The construction period for the Sienna Project is anticipated to occur over 12 to 24 months, utilizing an estimated (up to) 500 workers per day (during peak construction periods). Development of housing is not proposed as part of the Sienna Project. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. The proposed Project would require up to 15 full-time employees and require intermittent maintenance for PV panel washing. Employees would be sourced locally and, therefore, the potential to increase population in the Project vicinity is low. The Sienna Project would not include any recreational facilities. As such, the Sienna Project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. No impact would occur,

6.1.7 Wildfire

According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the Sienna Project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2022). According to the Countywide Plan Policy Map HZ-5 Fire Hazard Severity Zones, the Sienna

Project site is located within a Moderate Fire Hazard Severity Zone[4] and is located within a Fire Safety Overlay.

The Sienna Project is subject to review and approval from the San Bernardino County Fire Marshal. All new construction shall comply with the current Uniform Fire Code requirements and all applicable statues, codes, ordinances, and standards of the San Bernardino County Fire Department. The Sienna Project is approximately one mile east of SR 247/Barstow Road, which is an evacuation route within the County. Barstow Road would provide primary access to the Project. Adequate onsite access for emergency vehicles would be verified by the Fire Department during the County's plan review process. During construction, the contractor would be required to maintain adequate emergency access for emergency vehicles as required by the County. The Sienna Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This is considered a less than significant impact.

6.2 Calcite Substation

According to Chapter 4.0, Environmental Setting and Analysis, of the *Stagecoach Solar Project Draft EIR* (SCH No. 2020100235), the proposed Calcite Substation would have no impact or a less than significant impact on the following two environmental issue areas:

- Agriculture and Forestry Resources, and
- Mineral Resources (California State Lands Commission 2021).

[4] San Bernardino Countywide Plan, HZ-5: "Fire Hazard Severity Zone". Available on-line at: https://www.arcgis.com/apps/webappviewer/index.html?id=355f9beb4a8f446e8869459e91d58431. Accessed July 14, 2022.

This page is intentionally blank.

7 Alternatives

7.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an EIR is set forth clearly and forthrightly within the CEQA statutes. Specifically, *CEQA Guidelines* Section 21002.1(a) states:

> *"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."*

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (*CEQA Guidelines* Section 15126.6(a)). The *CEQA Guidelines* direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative should be designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (*CEQA Guidelines* Section 15126.6(e)(2)).

7.2 Criteria for Alternatives Analysis

As stated above, pursuant to CEQA, one of the criteria for defining project alternatives is the potential to attain the project objectives. Established objectives of the Project Applicant for the Sienna Project include:

- 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

- Support California's Renewables Portfolio Standard (RPS) Program consistent with the timeline established by 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
- To provide energy to the electric grid to meet increasing demand for in-state generation
- Interconnect directly to the SCE electrical transmission system
- Promote the County's role as the State's leading producer of renewable energy
- Utilize a location that is in close proximity to existing powerlines and the proposed SCE Calcite Substation

7.3 Alternatives Considered but Rejected

7.3.1 Alternative Site

Section 15126.6(f)(2) of the *CEQA Guidelines* addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the Sienna Project would be avoided or substantially lessened by constructing the Project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the Project need to be considered for inclusion in the EIR. Further, *CEQA Guidelines* Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

The Sienna Project proponent does not have control of an alternate site. If control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed Sienna Project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. Furthermore, the incontiguous configuration of the Project location occurred due to difficulties in securing properties, and replicating an alternative site would likely be difficult to ascertain based upon this experience. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed Sienna Project, because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the Sienna Project proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

7.4 Sienna Project Alternatives Under Consideration

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to a project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (*CEQA Guidelines* Section 15126.6(a)). The following alternatives were carried forward for further analysis in the EIR.

7.4.1 Alternative 1: No Project Alternative

The *CEQA Guidelines* require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e)(1), "the specific alternative of 'no project' shall also be evaluated along with its impact." Also, pursuant to Section 15126.6(e)(2); "The 'no project' analysis shall

discuss the existing conditions at the time the notice of preparation is published, … at the time environmental analysis is commenced, 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 No Project Alternative assumes that the Sienna Project, as proposed, would not be implemented and the Project site would not be further developed with a solar energy project.

Environmental Impact of Alternative 1: No Project/No Development Alternative

Aesthetics

Under the No Project Alternative, the Sienna Project site would not be developed. The No Project Alternative would not modify the existing Sienna Project site or add construction (e.g., solar panels, transmission lines) to the Project site. Therefore, there would be no change to the existing condition of the site. Under this alternative, there would be no potential to create new sources of light or glare associated with the PV arrays. A less than significant aesthetic impact (including potential light and glare impact) has been identified associated with the Sienna Project. However, because there would be no change to the existing condition of the Project site under this alternative, there would be no potential impact associated with a change in visual character of the site and the potential aesthetic impact would be less when compared to the potential impacts of the Sienna Project.

Agricultural Resources

Compared to the Sienna Project, implementation of this alternative would avoid the temporary conversion of land designated as Farmland of Statewide Importance to non-agricultural uses. The No Project Alternative would not result in the conversion of agricultural lands or otherwise adversely affect agricultural operations. Compared to the Sienna Project, this alternative would avoid impacts to agricultural land, as well as the need for future restoration of the Project site to pre-Project conditions.

Air Quality

Under the No Project Alternative, there would be no air emissions associated with Project construction, operation and decommissioning. Therefore, no significant impacts to air quality or violation of air quality standards would occur under this alternative. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

As discussed in Section 3.4, Air Quality, of this EIR, with adherence to MDAQMD Rule 403, the Sienna Project would not exceed the MDAQMD's significance thresholds for emissions of VOCs, CO, NOx, SOx, $PM_{2.5}$, and PM_{10} during both the construction and operational phases of the Sienna Project. The No Project Alternative would result in less air quality emissions compared to the Sienna Project. However, the No Project Alternative would not reduce the long-term need for renewable electricity generation. As a consequence, while the No Project Alternative would not result in impacts to air quality as a result of construction, it would likely not realize the overall benefits to regional air quality when compared to the operation of the Sienna Project.

Biological Resources

Under the No Project Alternative, existing biological resource conditions within the Sienna Project site would largely remain unchanged, and no impact would be identified. Unlike the Sienna Project which requires mitigation for biological resources including Parish's phacelia, desert tortoise, desert kit fox, burrowing owl, Le Conte's thrasher, several raptors, and other migratory birds, this alternative would not result in construction of a solar facility that could otherwise result in significant impacts to these biological resources. Compared to the Sienna Project, this alternative would avoid impacts to biological resources.

Cultural Resources

The Sienna Project would involve ground-disturbing activities that have the potential to disturb previously undocumented archaeological pursuant to CEQA. Under the No Project Alternative, the Sienna Project site would not be developed and no construction-related ground disturbance would occur. Therefore, compared to the Sienna Project, this alternative would avoid impacts to cultural resources.

Geology and Soils

Because there would be no development at the Sienna Project site under the No Project Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impact to Project-related facilities as a result of local seismic hazards (strong ground shaking), subsidence, ground fissuring, expansive and corrosive soils, soil erosion, and paleontological resources. In contrast, the Sienna Project would require the incorporation of mitigation measures related to subsidence, ground fissuring, expansive and corrosive soils, and paleontological resources to minimize impacts to a less than significant level. Compared to the Sienna Project, this alternative would avoid significant impacts related to geology and soils and paleontological resources.

Greenhouse Gas Emissions

Under the No Project Alternative, there would be no GHG emissions generated from construction or operation of the Sienna Project or corresponding impact to global climate change. Conversely, the No Project Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of SB 32. While this alternative would not further implement policies for GHG reductions, this alternative would also not directly conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This alternative would not create any new GHG emissions during construction but would not lead to a long-term beneficial impact to global climate change by providing renewable clean energy. For the proposed Sienna Project, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the Project would result in an overall beneficial impact to global climate change as the result of creation of clean renewable energy, that does not generate GHG emissions. The construction emissions associated with the proposed Project would be off-set by the beneficial renewable energy provided by the Sienna Project, while the No Project Alternative would not result in new GHG emissions during construction or operation, it would be less beneficial to global climate change when compared to the Sienna Project.

Hazards and Hazardous Materials

The No Project Alternative would not involve ground disturbing activities. Therefore, no potential exposure to hazardous materials would occur. This alternative would not result in safety hazards

associated with airport operations. Although a less than significant impact is identified for hazards and hazardous materials associated with the Sienna Project, this alternative would have less of an impact related to hazards and hazardous materials as there would be no potential for the transport, use, removal or disposal of hazardous materials.

Hydrology and Water Quality

The No Project Alternative would not result in modifications to the existing drainage patterns or volume of storm water runoff as attributable to the Sienna Project, as the existing site conditions and on-site pervious surfaces would remain unchanged. In addition, no changes with regard to water quality would occur under this alternative. Compared to the Sienna Project, from a drainage perspective, this alternative would avoid changes to existing hydrology. This alternative would have less of an impact associated with hydrology and water quality as compared to the Sienna Project.

Land Use Planning

Under the No Project Alternative, the Sienna Project site would not be developed. Current land uses would remain the same. The No Project Alternative would not conflict with the San Bernardino County General Plan, County ordinances, or other applicable land use plans, policies, or regulations. No impacts related to land use would occur. Although a less than significant impact is identified for land use associated with the Sienna Project, this alternative would have less of an impact.

Noise

This alternative would not require construction or operation of the Sienna Project facilities. Therefore, this alternative would not increase ambient noise levels within the vicinity of the Project site. For this reason, no significant noise impacts would occur. As discussed in Section 3.12, Noise and Vibration, of this EIR, with implementation of mitigation, the Sienna Project's potential noise impacts during construction would be reduced to a less than significant level. Compared to the Sienna Project, this alternative would avoid significant impacts related to noise.

Transportation

There would be no new development under the No Project Alternative. Therefore, this alternative would not generate vehicular trips during construction or operation. For these reasons, no impact would occur, and this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, or result in inadequate emergency access. Although the Sienna Project would result in less than significant transportation impacts, this alternative would avoid an increase in vehicle trips on local roadways, and any safety related hazards that could occur in conjunction with the increase vehicle trips and truck traffic, primarily associated with the construction phase of the Sienna Project.

Tribal Cultural Resources

There would be no new development under the No Project Alternative. Therefore, this alternative would not cause a substantial adverse change in the significance of a tribal cultural resource. The Sienna Project has the potential to impact previously undiscovered tribal cultural resources during earth moving activities associated with Project construction. Therefore, the No Project Alternative would avoid potential impacts to tribal cultural resources.

Utilities and Service Systems

The No Project Alternative would not require the expansion or extension of existing utilities, since there would be no new Project facilities that would require utility service. No solid waste would be generated under this alternative and no water would be required for Project construction and operation. Compared to the Sienna Project, this alternative would have less of an impact related to utilities and service systems.

Conclusion

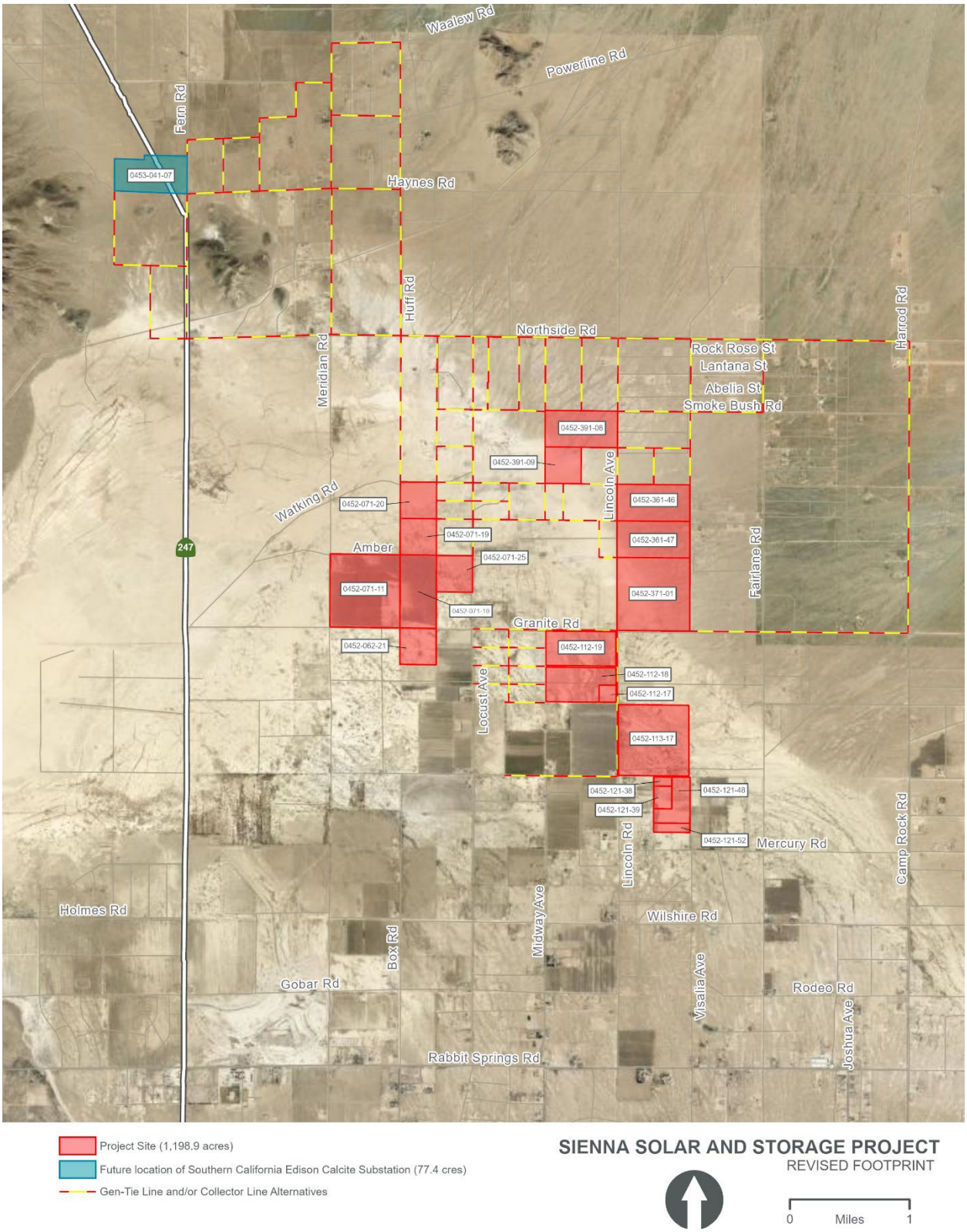
Implementation of the No Project Alternative would generally result in reduced impacts for a majority of the environmental issues areas considered in Chapter 3, Environmental Analysis, of this EIR when compared to the Sienna Project. A majority of these reductions are realized in terms of significant impacts that are identified as a result of Project construction-related ground disturbing activities. While the No Project Alternative would result in fewer environmental impacts than the Sienna Project, it would also fail to meet any of the Project objectives or realize the benefits of reduced GHG emissions associated with energy use, which are desirable benefits that are directly attributable to the Sienna Project.

7.4.2 Alternative 2: Reduced Footprint Alternative

The purpose of this alternative is to reduce the size of the Sienna Project site to minimize impacts on agricultural resources and special-status plant and wildlife species. The Project site would be reduced by 655 acres from 1,854 acres to 1,199 acres. The Reduced Footprint Alternative would avoid impacts to important farmland designated “Farmland of Statewide Importance” located in the southern portion of the Sienna Project site, and reduce impacts to air quality, biological resources, cultural resources, hydrology and water quality, and tribal cultural resources due to the reduced construction footprint.

A conceptual layout of the Reduced Footprint Alternative is provided in Figure 7-1.

Figure 7-1. Reduced Footprint Alternative



Environmental Impact of Alternative 2: Reduced Footprint Alternative

Aesthetics

Under the Reduced Footprint Alternative, the overall size of the solar energy facility would be reduced. No significant aesthetic impact has been identified as the Sienna Project's facilities would not impact scenic resources, result in the substantial degradation of the existing visual character of the Sienna Project site, or add a substantial amount of light and glare. Although the Reduced Footprint Alternative would result in slightly less solar infrastructure onsite, the type and appearance of the infrastructure under the Reduced Footprint Alternative would be the same as that proposed under the Project. Therefore, this alternative would not avoid or reduce any significant impacts identified for the Project and the aesthetic impact would be similar to the proposed Sienna Project.

Agricultural Resources

Under the Reduced Footprint Alternative, the overall size of the solar energy facility would be reduced by approximately 655 acres. Compared to the proposed Project, this alternative would avoid the temporary conversion of land designated as Farmland of Statewide Importance by the FMMP.

Air Quality

Under the Reduced Footprint Alternative, there would be reduced air emissions when compared to Project construction or operation due to the reduced site development. As discussed in Section 3.4, Air Quality, of this EIR, with adherence to MDAQMD Rule 403, the proposed Sienna Project would not exceed the MDAQMD's significance thresholds for emissions of VOCs, CO, NOx, SOx, $PM_{2.5}$, and PM_{10} during both the construction and operational phases of the Project. The Reduced Footprint Alternative would result in less air quality emissions compared to the proposed Sienna Project, the majority of which would occur during Project construction. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

Biological Resources

Under the Reduced Footprint Alternative, the overall size of the solar energy facility would be reduced by approximately 655 acres. Although the overall size of the solar energy facility would be reduced, there is still potential for impacts on special-status species such as Parish's phacelia, desert kit fox, burrowing owl, and other raptors and nesting birds. Compared to the proposed Project, this alternative would result in a reduction in impacts on biological resources, but would still require mitigation similar to that required under the proposed Sienna Project.

Cultural Resources

Under the Reduced Footprint Alternative, the solar energy facility would be reduced by 655 acres. The Reduced Footprint Alternative would result in slightly reduced, but similar, impacts to cultural resources as the proposed Sienna Project. Although the footprint would be reduced, the Reduced Footprint Alternative would result in similar impacts on unknown resources as the Project and the same mitigation measures would apply.

Geology and Soils

While the overall Sienna Project footprint would be reduced under the Reduced Footprint Alternative, grading and construction of new facilities, such as the solar facility, battery energy storage, and gen-tie, would still occur. This alternative would still be subject to potential impacts related to geologic and soil hazards and paleontological resources, and would require the incorporation of mitigation measures similar to the proposed Project to minimize these impacts to a less than significant level. This alternative would result in similar geology and soil and paleontological resources impacts as the proposed Sienna Project.

Greenhouse Gas Emissions

Under the Reduced Footprint Alternative, the overall Sienna Project footprint would be reduced by approximately 655 acres, thereby contributing to reductions in GHG emissions during Project construction. However, as a consequence of the reduced size of the Project, this alternative would result in a reduced power production capacity as compared to the proposed Project. Hence, the overall benefits of the Sienna Project on global climate change through the creation of renewable energy would also be reduced. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Similar to the proposed Project, this alternative would not exceed MDAQMD's threshold of 100,000 $MTCO_2e$. Compared to the proposed Sienna Project, this alternative would contribute to similar and desirable reductions in GHG emissions and associated contribution to global climate change through the production of renewable energy, although to a lesser degree. Because no significant GHG impact has been identified associated with the proposed Sienna Project, this alternative would not avoid or reduce a significant impact related to this issue and, therefore, it is considered similar to the proposed Project.

Hazards and Hazardous Materials

Similar to the proposed Sienna Project, construction of this alternative would involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. Also, as with the proposed Project, because the Phase I ESA prepared for the proposed Sienna Project did not identify and on-site RECs, this alternative would not avoid or reduce impacts associated with hazardous materials. Further, no impact associated with potential safety hazards to the public residing or working within proximity to a public airport would occur. Implementation of this alternative would result in a similar hazards and hazardous materials impact as the proposed Project. This alternative would not avoid or lessen the impact to hazards and hazardous materials as no significant impact associated with the proposed Sienna Project has been identified.

Hydrology and Water Quality

The Reduced Footprint Alternative would result in modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce impervious area on-site, although to a lesser degree than the proposed Sienna Project. Because the overall Sienna Project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts on hydrology and on-site drainage. However, the same hydrology and water quality control measures and permits would be applicable to this alternative. Compared to the proposed Sienna Project, this alternative would result in less of an impact on hydrology and water quality.

Land Use Planning

Implementation of this alternative would not avoid or reduce a land use and planning impact, as no significant impact associated with the Sienna Project has been identified. Implementation of this alternative would be similar to the proposed Sienna Project with respect to land use and planning.

Noise

As with the proposed Sienna Project, the Reduced Footprint Alternative would not result in significant noise impacts associated with construction activities with implementation of mitigation. In addition, operational impacts associated with this alternative would not expose persons or generate noise levels in excess of applicable noise standards, exposure persons to, or generate excessive groundborne vibration, or expose persons to excessive aircraft noise. Noise impacts under the Reduced Footprint Alternative would require the same mitigation measures as the proposed Sienna Project. Transportation

This alternative would result in a similar level of construction and operation-related vehicle and truck trips as compared to the proposed Sienna Project. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed Project. In this context, the Reduced Footprint Alternative would not reduce or avoid an impact related to transportation/traffic and would result in less than significant impacts similar to the proposed Sienna Project. As with the proposed Project, the Reduced Footprint Alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation as the proposed Project.

Tribal Cultural Resources

Similar to the proposed Sienna Project, the Reduced Footprint Alternative has the potential to impact previously undiscovered tribal cultural resources during earth moving activities associated with Project construction. Therefore, impacts to tribal cultural resources under the Reduced Footprint Alternative, although considered less than those under the proposed Project, would require the same mitigation measures than the proposed Sienna Project.

Utilities and Service Systems

Implementation of this alternative would result in an overall less demand for utilities, including water. However, this alternative would not avoid or reduce a significant impact associated with the Sienna Project, as a less than significant impact to utilities has been identified with the Project. As compared to the proposed Sienna Project, the overall demand for utilities would be less under this alternative.

Conclusion

The Reduced Footprint Alternative would avoid impacts to important farmland designated “Farmland of Statewide Importance” located in the southern portion of the proposed Sienna Project site, and reduce impacts to air quality, biological resources, cultural resources, hydrology and water quality, and tribal cultural resources due to the reduced construction footprint. However, although the Reduced Footprint Alternative would reduce some construction-related impacts and achieve the goals and objectives of the Project, the long-term benefits of the Reduced Footprint Alternative would not be equivalent to those realized under the proposed Sienna Project.

7.5 Environmentally Superior Alternative

Table 7-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed Project. As noted on Table 7-1, the No Project Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the proposed Sienna Project. However, *CEQA Guidelines* Section 15126.6(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." As shown on Table 7-1, Alternative 2: Reduced Footprint Alternative would reduce impacts for the following environmental issue areas as compared to the proposed Sienna Project: Agricultural resources, air quality, biological resources, cultural resources, hydrology and water quality, tribal cultural resources, and utilities/service systems. Therefore, Alternative 2: Reduced Footprint Alternative, is considered the Environmentally Superior Alternative.

Table 7-1. Comparison of Alternative Impacts to Proposed Sienna Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Reduced Footprint Alternative
Aesthetics and Visual Resources	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* *Less Impact (Avoid)*	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)
Air Quality	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact

Environmental Issue Area	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Reduced Footprint Alternative
GHG Emissions	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Hydrology and Water Quality	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Noise and Vibration	Less than Significant Impact with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant Impact with Mitigation *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact

Environmental Issue Area	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Reduced Footprint Alternative
Utilities/Service Systems	Less than Significant Impact	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant Impact *Comparison to Proposed Project:* Less Impact

8 EIR Consultation and Preparation

8.1 EIR Consultation

8.1.1 Lead Agency

County of San Bernardino

Jim Morrissey, Planner

8.2 EIR Preparers

8.2.1 HDR

Tim Gnibus, Principal

Sharyn Hidalgo, Project Manager

Regan Del Rosario, Environmental Planner

Sharon Jacob, GIS Analyst

Katherine Turner, Document Production Administrator

8.2.2 Technical Subconsultants

GHD

Traffic Assessment

Rincon Consultants, Inc.

Air Quality and Greenhouse Gas Study

Cultural Resources Study

General Biological Resources Assessment

Jurisdictional Waters and Wetlands Delineation Report

Noise Study

Paleontological Resources Assessment

Visual Resources Assessment

Water Supply Assessment

SWCA Environmental Consultants

Phase I Environmental Site Assessment

Terracon Consultants, Inc.

CEQA Level Geotechnical Study

Westwood Professional Services

Preliminary Hydrology Study

Wildland International

Biological Inventory Findings Report

9 References

California Air Pollution Control Officers Association (CAPCOA). 2021. Health Effects. Available on-line at http://www.capcoa.org/health-effects/. Accessed June 16, 2022.

California Air Resources Board (CARB). 2016. Ambient Air Quality Standards. Available on-line at https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed June 16, 2022.

——— 2022a. California Greenhouse Gas Emissions for 2000 to 2020 – Trends of Emissions and Other Indicators. October 26, 2022. Available on-line at https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf. Accessed July 17, 2023.

——— 2022b. California Greenhouse Gas Inventory for 2000-2020 – by Category as Defined in the 2008 Scoping Plan. October 26, 2022. Available on-line at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/ghg_inventory_scopingplan_sum_2000-20.pdf. Accessed July 17, 2023.

——— 2017. California's 2017 Climate Change Scoping Plan. Available on-line at https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed June 28, 2022.

California Food and Agriculture Code. 2005. Division 23 – California Desert Native Plants [80001 – 80201]. Available on-line at https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=FAC&division=23.&title=&part=&chapter=3.&article=. Accessed January 17, 2023.

California Department of Conservation (DOC), Farmland Mapping and Monitoring Program. 2018. https://maps.conservation.ca.gov/agriculture/. Accessed June 16, 2022.

California Department of Forestry and Fire Protection. 2007. Fire Hazard Severity Zones in SRA. Available on-line at https://osfm.fire.ca.gov/media/6520/fhszs_map62.jpg. Accessed June 16, 2022.

California Department of Oil, Gas, and Geothermal Resources. 2022. Geologic Energy Management Division's Well Finder. Available on-line at https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-115.71291/33.01887/14. Accessed April 27, 2022.

California Department of Public Health. 2020. Epidemiologic Summary of Valley Fever (Coccidioidomycosis) in California, 2019. September. Available on-line at https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2019.pdf. Accessed June 16, 2022.

——— 2021. Coccidioidomycosis in California Provisional Monthly Report January-July 2021. July. Available on-line at https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf. Accessed June 16, 2022.

California Department of Transportation (Caltrans). 1998. Technical Noise Supplement.

——— 2013. Transportation and Construction-Induced Vibration Guidance Manual. Available on-line at https://www.placer.ca.gov/DocumentCenter/View/8273/Caltrans-2013-Transportation-and-Construction-Vibration-Guidance-Manual-PDF. Accessed June 16, 2022.

——— 2015. California State Vista Points Webmap. Available on-line at https://www.arcgis.com/apps/mapviewer/index.html?webmap=5f82ccb700874868bf07f8cfa2a43a1f. Accessed June 20, 2022.

——— 2018. California State Scenic Highway System Webmap. Available on-line at https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed June 20, 2022.

——— 2020. *Transportation and Construction Vibration Guidance Manual*. (CT-HWANP-RT-13-069.25.3) September. Available at: http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf. Accessed June 16, 2022

——— 2020. Transporting Lithium Batteries. Available on-line at https://www.phmsa.dot.gov/lithiumbatteries. Accessed May 6, 2022.

California Department of Water Resources (DWR). 2022. Sustainable Groundwater Management Act Basin Prioritization Dashboard. https://gis.water.ca.gov/app/bp-dashboard/final/#. Accessed July 15, 2022.

California Geologic Survey (CGS). 2016. Earthquake Zones of Required Investigation. Available on-line at https://maps.conservation.ca.gov/cgs/EQZApp/. Accessed May 3, 2022.

California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment – California's Changing Climate 2018.* Available on-line at https://www.energy.ca.gov/sites/default/files/2019-11/20180827_Summary_Brochure_ADA.pdf. Accessed June 25, 2022.

California Natural Resources Agency et al. 2014. California Water Action Plan. https://resources.ca.gov/CNRALegacyFiles/docs/california_water_action_plan/2014_California_Water_Action_Plan.pdf. Accessed July 15, 2022.

California Regional Water Quality Control Board. 2019. Water Quality Control Plan for the Colorado River Basin Region. Available on-line at: https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/docs/2020/rb7bp_e2019.pdf

——— 2022. HUC Watersheds/HUC 10 WebMap Viewer. Available on-line at https://gispublic.waterboards.ca.gov/portal/apps/mapviewer/index.html?layers=b6c1bab9acc148e7ac726e33c43402ee&layerId=3. Accessed October 18, 2022.

California State Lands Commission. 2021. *Draft Environmental Impact Report for the Stagecoach Solar Project (SCH No. 2020100235).* October.

CalRecycle. 2022. SWIS Facility/Site Activity Details – Barstow Sanitary Landfill (36-AA-0046). Available on-line at https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1871?siteID=2653. Accessed June 25, 2022.

County of San Bernardino. 2020a. San Bernardino County Countywide Policy Plan. Available on-line at https://countywideplan.com/wp-content/uploads/sites/68/2021/01/CWP_PolicyPlan_HardCopy_MainText_Tables_20201027_adopted-1.pdf. Accessed June 25, 2022.

——— 2020b. *Lucerne Valley Community Action Guide*. https://countywideplan.com/wp-content/uploads/sites/68/2020/10/04_Lucerne-Valley_CAG_2020.pdf. Accessed, January 16, 2022.

——— 2019. San Bernardino Countywide Plan Draft Environmental Impact Report (SCH No. 2017101033). June. Available on-line at https://countywideplan.com/resources/document-download/. Accessed January 17, 2023.

County of San Bernardino Public Works Department. 2019. Transportation Impact Study Guidelines. Available on-line at https://www.sbcounty.gov/uploads/DPW/docs/Traffic-Study-Guidelines.pdf. Accessed January 24, 2023.

County of San Bernardino Solid Waste Management Division (SWMD). 2022. Solid Waste Management Division [home page]. https://dpw.sbcounty.gov/solid-waste-management/. Accessed July 14, 2022.

Department of Toxic Substances Control. 2022. EnviroStor – Hazardous Waste and Substances Site List (Cortese). https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed July 19, 2022.

Federal Emergency Management Agency (FEMA). 2008. FEMA's National Flood Hazard Layer (NFHL) Viewer. Available on-line at https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-117.24210084594726,34.35094253902788,-116.57742799438567,34.63390895688781. Accessed January 17, 2023.

Federal Highway Administration (FHWA). 2017. Highway Traffic Noise Analysis and Abatement Policy and Guidance. August 24.

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018. 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 June 25, 2022.

Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021 The Physical Science Basis. August. Available on-line at https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf. Accessed June 16, 2022.

Mojave Basin Area Watermaster. 2021. Twenty-Seventh Annual Report of the Mojave Basin Area Watermaster, Water Year 2019 – 20. https://www.mojavewater.org/files/27AR1920.pdf. Accessed July 20, 2022.

Mojave Desert Air Quality Management District (MDAQMD). 2020. California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. February. https://www.mdaqmd.ca.gov/home/showpublisheddocument?id=8510. Accessed January 17, 2023.

Mojave Water Agency (MWA). 2021. 2020 Urban Water Management Plan. https://www.mojavewater.org/wp-content/uploads/2022/06/MWA2020UWMPFinal061621.pdf. Accessed July 15, 2022.

Southern California Association of Governments (SCAG). 2016. 2016-2040 RTP SCS (The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy). April. Available on-

line at https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs.pdf?1606005557. Accessed June 25, 2022.

——— 2020. *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176. Accessed, July 13, 2022.

State of California Employment Development Department. 2023. Current Month Labor Force Data for Cities and Census Designated Places. Available on-line at https://www.labormarketinfo.edd.ca.gov/. Accessed July 17, 2023.

U.S. Bureau of Land Management. 2016. Executive Summary for the Record of Decision – Desert Renewable Energy Conservation Plan. Available on-line at https://eplanning.blm.gov/public_projects/lup/66459/133459/163123/DRECP_BLM_ROD_Executive_Summary.pdf. Accessed May 17, 2022.

U.S. Environmental Protection Agency (U.S. EPA). 2016. Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2. October 25, 2016. Available on-line at https://www.govinfo.gov/content/pkg/FR-2016-10-25/pdf/2016-21203.pdf. Accessed June 28, 2022.

——— 2011. Final Rulemaking to Establish Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Final Rule. September 5, 2011. Available on-line at https://www.govinfo.gov/content/pkg/FR-2011-09-15/pdf/2011-20740.pdf. Accessed June 28, 2022.

——— 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018. U. S. EPA #430-R-20-002. April 2020. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2018. Accessed June 16, 2022.

——— 2022. Summary of the Resource Conservation and Recovery Act [webpage]. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act. Accessed, July 14, 2022.

Victor Valley Transit Authority (VVTA). 2022. Victor Valley Transit Routes. Available on-line at: https://vvta.org/interactive-map/. Accessed July 14, 2022.