

# KEY ENERGY STORAGE PROJECT

Draft Environmental Impact Report

EIR No. 8189

CUP No. 3734

State Clearinghouse No. 2022070414

Prepared for  
Fresno County Department of  
Public Works and Planning

September 2023





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787 The Alameda  
Suite 250  
San Jose, CA 95126  
408.660.4000  
esassoc.com



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**Acronyms and Abbreviations**

|           |  |
|-----------|--|
| AB        | Assembly Bill                          |
| AC        | alternating current                    |
| AE        | Exclusive Agriculture zoning district  |
| APLIC     | Avian Power Line Interaction Committee |
| APN       | assessor’s parcel number               |
| Applicant | Key Energy Storage, LLC                |
| CAISO     | California Independent System Operator |



|                 |  |
|-----------------|--|
| Cal. Code Regs. | California Code of Regulations                     |
| CEC             | California Energy Commission                       |
| CEQA            | California Environmental Quality Act               |
| CFR             | Code of Federal Regulations                        |
| County          | Fresno County government                           |
| CPUC            | California Public Utilities Commission             |
| CRS             | Cultural Resource Specialist                       |
| CUP             | conditional use permit                             |
| DC              | direct current                                     |
| Draft EIR       | draft environmental impact report                  |
| EIR             | environmental impact report                        |
| GHG             | greenhouse gas                                     |
| GW              | gigawatt(s)  |
| GWh             | gigawatt-hour(s)                                   |
| GWP             | global warming potential                           |
| HEPA            | high efficiency particulate air                    |
| HVAC            | heating, ventilation, and air conditioning         |
| I-5             | Interstate 5                                       |
| IPM             | integrated pest management                         |
| ITP             | incidental take permit                             |
| kV              | kilovolt(s)  |
| kWh             | kilowatt-hour(s)                                   |
| LAMP            | Local Agency Management Program                    |
| MLD             | Most Likely Descendant                             |
| MW              | megawatt(s)  |
| NAHC            | Native American Heritage Commission                |
| NECPA           | National Energy Conservation Policy Act            |
| NFPA            | National Fire Protection Association               |
| NHPA            | National Historic Preservation Act                 |
| NHTSA           | National Highway Traffic and Safety Administration |
| NOP             | notice of preparation                              |
| O&M             | operation and maintenance                          |
| PCS             | power conversion system                            |
| PG&E            | Pacific Gas and Electric Company                   |
| POI             | point of interconnection                           |
| Project         | Key Energy Storage Project                         |

|                |  |
|----------------|--|
| Project site   | up to 260 acres of private property in western Fresno County within the approximately 318-acre area consisting of Assessor's Parcel Numbers 085-040-58, 085-040-36, and 085-040-37 |
| Pub. Res. Code | Public Resources Code  |
| RPS            | Renewables Portfolio Standard  |
| SCADA          | supervisory control and data acquisition   |
| SOI            | Secretary of the Interior  |
| SSJVIC         | Southern San Joaquin Valley Information Center   |
| SWPPP          | storm water pollution prevention plan  |
| UL             | Underwriters Laboratories  |
| USC            | U.S. Code  |
| USGS           | U.S. Geological Survey   |
| WEAP           | Worker Environmental Awareness Training  |

# EXECUTIVE SUMMARY

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## ES.1 Introduction

Key Energy Storage, LLC (the Applicant) has filed an application with the Fresno County Department of Public Works and Planning for an unclassified conditional use permit (CUP) (CUP No. 3734) to construct, operate, maintain, and decommission the Key Energy Storage Project (Project) on approximately 260 acres of private property in western Fresno County.

The facility would not generate electricity. Rather, it would provide a service by receiving energy (charging) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, storing energy, and then later delivering energy (discharging) back to the POI. The Project would consist of batteries using lithium-ion and/or iron-flow storage technology. On-site support facilities would include a collector substation; power conversion systems, including bi-directional inverters,<sup>1</sup> transformers,<sup>2</sup> and associated connection lines; heating, ventilation, and air conditioning units; fencing; access roads; a supervisory control and data acquisition (SCADA)<sup>3</sup> system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation, which is located in Buttonwillow, an unincorporated community in Kern County, California.

The Project would be developed on private property in unincorporated western Fresno County within the approximately 318-acre area that consists of Assessor's Parcel Numbers (APNs) 085-040-58, 085-040-36, and 085-040-37 (Project site). The Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size). The northernmost Project site parcel is subject to a contract entered into pursuant to the California Land Conservation Act of 1965 (also known as the *Williamson Act*), which enables local governments and private landowners to agree to restrict

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<sup>1</sup> An *inverter* connects to the electric power grid and converts direct current (DC) electric power to alternating current (AC).

<sup>2</sup> A *transformer* converts AC from one voltage to another. For example, it can be designed to "step up" to a higher voltage or "step down" to a lower one.

<sup>3</sup> *SCADA* is a system of software and hardware elements that allow companies such as the Applicant to control onsite processes locally or at remote locations; to monitor, gather, and process real-time data; interact directly with devices such as energy storage system sensors through human-machine interface software; and record events into a log file. It provides an information technology function that requires cable internet or wi-fi service.

specific parcels of land to agricultural or related open space use. The Project site is located 4 miles southwest of the city of Huron, approximately 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E’s existing Gates Substation. See **Figure ES-1, Regional Location**, and **Figure ES-2, Project Site**.

Fresno County (County) is serving as the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and its implementing regulations (the CEQA Guidelines). The County has prepared this draft environmental impact report (Draft EIR) (EIR No. 8189) to document its analysis of the direct, indirect, and cumulative environmental impacts of the Project and alternatives to the Project, and to identify mitigation measures to avoid or reduce impacts that have been identified as “significant” for purposes of CEQA.

## **ES.2 Purpose and Use of the Draft EIR**

CEQA Guidelines Section 15124(d) requires that an EIR contain a statement briefly describing the intended uses of the EIR. This Draft EIR is an informational document that examines and discloses the potential impacts of the Project and alternatives so that decision-makers and the public can consider the potential environmental consequences of a decision on the requested CUP. The County will rely on this EIR, along with other information in the formal record, in deciding whether to approve, approve with modifications, or deny required permits. Agencies that have trustee responsibilities or that may have permitting authority over the Project are identified in Section ES.4, *Permits and Approvals*. These other agencies also may rely on this document in deciding whether to approve permits or issue other approvals for the Project.

## **ES.3 Project Objectives**

The purpose of the Project is to receive, store, and discharge electric energy from the California Independent System Operator (CAISO)–controlled electric grid in a reliable and economical manner, including renewable energy produced by existing solar and wind resources in the region. The Project would interconnect to the CAISO-controlled grid at PG&E’s existing Gates Substation. The Applicant has identified the following Project objectives:

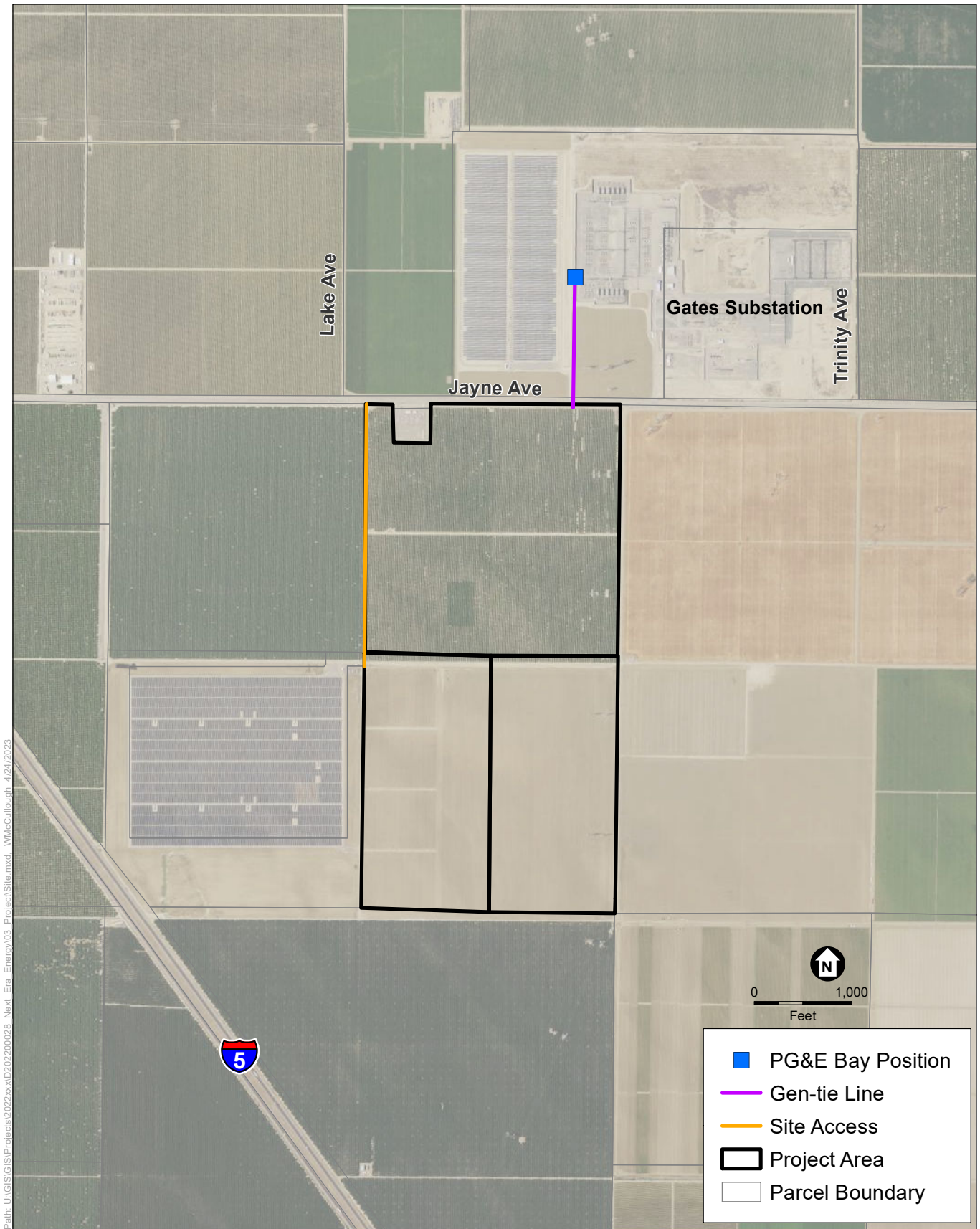
1. Site approximately 3 gigawatts of energy storage adjacent to the Gates Substation to support energy grid reliability while minimizing the gen-tie length.
2. Support state policies necessary to improve the reliability of California’s energy grid, including Assembly Bill 2514 and the California Public Utilities Commission’s (CPUC’s) February 22, 2021 ruling (R.20-05-003) related to integrated resource planning, including the need for 7,500 megawatts of net qualifying capacity between 2023 and 2025.
3. Increase local energy storage capacity at Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand.



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Key Energy Storage Project

**Figure ES-1**  
Regional Location



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Key Energy Storage Project

**Figure ES-2**  
Project Site

4. Develop an energy storage facility in Fresno County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.
5. Achieve the above fundamental objectives while avoiding and minimizing environmental impacts.

## ES.4 Permits and Approvals

Permits and approvals that could be required to construct, operate and maintain, and decommission the Project include the following:

- **Fresno County**—unclassified CUP; Williamson Act cancellation; lot line adjustment, lot merger, subdivision map, and/or tentative parcel map; and a structure height variance if needed before the proposed power line poles could exceed the 35-foot height limit in an AE zone. An encroachment permit also could be required for installation of the transmission line to cross West Jayne Avenue.
- **State Water Quality Control Board**— National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002).
- **CPUC**—authorizations pursuant to General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County and construction of the gen-tie line.
- **San Joaquin Valley Unified Air Pollution Control District**—approval of Indirect Source Review for stationary and/or mobile sources and of a Dust Control Plan pursuant to Regulation VIII.

In addition, some construction deliveries to the Project site could be oversized or overweight. Vehicles providing deliveries would be subject to size, weight, and load restrictions pursuant to California Vehicle Code Division 15, including permits for oversize or overweight loads as required by Vehicle Code Section 35780 and California Code of Regulations Title 21, Section 1411.1 et seq.

## ES.5 Overview of Project Impacts

Sections 3.2 through 3.20 in Chapter 3, *Environmental Analysis*, provide a detailed discussion of the environmental and regulatory setting; direct, indirect, and cumulative impacts of the Project; and mitigation measures designed to reduce potential significant impacts below established thresholds. All resource areas in the CEQA Guidelines Appendix G Environmental Checklist were studied.

### ES.5.1 Significant and Unavoidable Impacts

Section 15126.2(a) of the CEQA Guidelines requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. As

analyzed in Chapter 3, *Environmental Analysis*, the Project would result in no significant unavoidable impacts.

## ES.5.2 Significant Irreversible Environmental Changes

CEQA's requirement to analyze irretrievable commitments of resources applies only to: (1) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (2) a local agency formation commission's adoption of a resolution making determinations; and (3) projects that require the preparation of an environmental impact statement under the National Environmental Policy Act of 1969 (Public Resources Code Section 21100.1; CEQA Guidelines Section 15127). Such an analysis is not required by CEQA for this Project.

## ES.5.3 Growth-Inducing Impacts

Section 15126.2(e) of the CEQA Guidelines requires a discussion of the ways in which a 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 (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas)." Project-caused population increases could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Growth inducement can be a result of new development that increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the Project would require up to 150 on-site personnel during construction. The existing construction labor pool in Fresno County is sufficient for meeting Project needs.<sup>4</sup> After construction, the Project would require no full-time personnel and would be remotely operated and monitored. Routine operations would require weekly visits to the facility site by one or two workers in a light utility truck. It is anticipated that one annual major maintenance inspection would occur. Non-routine (emergency) maintenance could require additional workers. Decommissioning and site restoration activities are expected to require a workforce similar to or smaller than the construction workforce; decommissioning and site restoration-related activities are expected to take approximately 12 months per phase to complete according to the Project's reclamation plan. Because construction and decommissioning would be temporary, the Project is unlikely to cause substantial numbers of people to relocate to Fresno County. Therefore, this Project would not result in a large increase in employment levels that would significantly induce growth.

It is expected that construction workers would commute to the Project site instead of relocating to Fresno County; however, even if all workers were to migrate into Fresno County, the existing available housing supply could accommodate them without requiring new construction.<sup>5</sup>

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<sup>4</sup> According to the California Employment Development Department's Labor Market Information Division, the unemployment rate in Fresno County was 5.9 percent in August 2022, down from a revised 8.8 percent in August 2021. This is comparable to an unadjusted unemployment rate of 5.8 percent for California and 3.7 percent for the nation during the same period.

<sup>5</sup> Among Fresno County's 519,037 residents in 2022, one housing market source reported a homeowner vacancy rate of 0.9 percent and a rental vacancy rate of 4.5 percent from a total of 176,617 units. The vacancy rate reported by the California Department of Finance was higher: 5.7 percent (DOF 2022a, 2022b).



Therefore, the Project is not expected to induce population growth, the housing and provision of services for which could cause significant adverse environmental impacts.

The Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.

## ES.5.4 Summary of Project Impacts and Mitigation Measures

As analyzed in Chapter 3, the Project would cause no impact in any of the areas identified in **Table ES-1, Areas of No Impact**.

**TABLE ES-1  
AREAS OF NO IMPACT**

| <b>Resource Area</b>                             | <b>CEQA Guidelines Appendix G Environmental Checklist Consideration</b>   |
|--|---|
| Aesthetics                                       | <ul style="list-style-type: none"> <li>The Project would have no impact related to a substantial adverse effect on a scenic vista.</li> <li>The Project would have no impact related to substantial damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.</li> </ul>   |
| Agriculture and Forestry Resources               | <ul style="list-style-type: none"> <li>The Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104).</li> <li>The Project would not result in the loss of forest land or conversion of forest land to non-forest use.</li> </ul>   |
| Biological Resources                             | <ul style="list-style-type: none"> <li>The Project would have no impact related to a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.</li> <li>The Project would have no impact related to a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means.</li> </ul>   |
| Cultural Resources and Tribal Cultural Resources | <ul style="list-style-type: none"> <li>The Project would result in no impact on known historical or unique archaeological resources.</li> </ul>   |
| Energy   | <ul style="list-style-type: none"> <li>The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.</li> </ul>  |
| Geology, Soils, and Paleontological Resources    | <ul style="list-style-type: none"> <li>The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.</li> </ul>  |
| Hazards and Hazardous Materials                  | <ul style="list-style-type: none"> <li>The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of a school.</li> <li>The Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment due to such a location.</li> <li>The Project would not be located within an airport land use plan or within 2 miles of a public airport or public use airport and so would not result in a safety hazard or excessive noise for people residing or working in the Project area.</li> </ul> |

**TABLE ES-1 (CONTINUED)**  
**AREAS OF NO IMPACT**

| <b>Resource Area</b>          | <b>CEQA Guidelines Appendix G Environmental Checklist Consideration</b>  |
|-------------------------------|--|
| Hydrology and Water Quality   | <ul style="list-style-type: none"> <li>The Project would not be located in a flood hazard, tsunami, or seiche zone, and therefore would not risk the release of pollutants due to Project site inundation in such a location.</li> </ul>   |
| Land Use and Planning         | <ul style="list-style-type: none"> <li>The Project would not physically divide an established community.</li> <li>The Project would cause no impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul>  |
| Mineral Resources             | <ul style="list-style-type: none"> <li>The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</li> <li>The Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.</li> </ul>   |
| Noise                         | <ul style="list-style-type: none"> <li>The Project would not expose people residing or working in the Project area to excessive noise levels.</li> </ul>   |
| Population and Housing        | <ul style="list-style-type: none"> <li>The Project would not induce substantial unplanned population growth in an area, either directly or indirectly.</li> <li>The Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.</li> </ul>  |
| Public Services               | <ul style="list-style-type: none"> <li>The Project would not result in substantial adverse physical impact from the provision of or 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 fire protection, police protection, schools, libraries, parks, emergency medical, or other public facilities.</li> </ul>           |
| Recreation                    | <ul style="list-style-type: none"> <li>The Project would cause no impact due to an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</li> <li>The Project would not include recreational facilities or require the construction of new or expansion of existing recreational facilities, which might have an adverse physical effect on the environment.</li> </ul> |
| Transportation                | <ul style="list-style-type: none"> <li>The Project would cause no impact due to a conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or other decrease in the performance or safety of such facilities.</li> </ul>  |
| Utilities and Service Systems | <ul style="list-style-type: none"> <li>The Project would cause no impact due to noncompliance with federal, state, or local management and reduction statutes and regulations related to solid waste.</li> </ul>   |
| Wildfire                      | <ul style="list-style-type: none"> <li>The Project would cause no impact due to exposure people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.</li> </ul>  |

NOTES: CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; Project = Key Energy Storage Project; USFWS = U.S. Fish and Wildlife Service

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Chapter 3, *Environmental Analysis*, for details)

**Table ES-2** summarizes the environmental impacts of the Project and recommended mitigation measures that, if adopted, would avoid or substantially reduce potential significant impacts of the Project. For five of the resource areas considered under CEQA—Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Recreation—no impact would occur relative to any of the CEQA Guidelines Appendix G Environmental Checklist considerations. Therefore, these resource areas are not included in Table ES.2. The analysis of each Project impact is provided on a resource-by-resource basis in Chapter 3.

**TABLE ES-2**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures | Level of Significance after Mitigation |
|---|---------------------|--|
| <b>Aesthetics</b>   |                     |  |
| <b>Impact 3.2-1:</b> The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.                                 | None required.      | Less than Significant                  |
| <b>Impact 3.2-2:</b> The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area.   | None required.      | Less than Significant                  |
| <b>Impact 3.2-3:</b> The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources.   | None required.      | Less than Significant                  |
| <b>Agriculture and Forestry Resources</b>   |                     |  |
| <b>Impact 3.3-1:</b> The Project would convert Prime Farmland to non-agricultural use.  | None required.      | Less than Significant                  |
| <b>Impact 3.3-2:</b> The Project would be compatible with an existing Williamson Act contract.  | None required.      | Less than Significant                  |
| <b>Impact 3.3-3:</b> The Project would involve changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. | None required.      | Less than Significant                  |
| <b>Impact 3.3-4:</b> The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Farmland to non-agricultural use.         | None required.      | Less than Significant                  |
| <b>Impact 3.3-5:</b> The Project would not cause a cumulatively considerable contribution to a significant cumulative effect related to an existing Williamson Act contract.                | None required.      | Less than Significant                  |
| <b>Air Quality</b>  |                     |  |
| <b>Impact 3.4-1:</b> Criteria pollutant emissions generated by Project construction, operation, and decommissioning would not conflict with SJVAPCD's air quality plans.                    | None required.      | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Air Quality (cont.)</b>   |  |  |
| <b>Impact 3.4-2:</b> Project activities would generate emissions that would not contribute to violations of ambient air quality standards.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-3:</b> The Project could expose sensitive receptors to substantial pollutant concentrations.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-4:</b> Project construction and decommissioning activities could expose sensitive receptors to the risk of contracting Valley Fever.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-5:</b> The Project would generate odor or dust emissions.  | None required.   | Less than Significant                  |
| <b>Impact 3.4-6:</b> The Project's criteria pollutant emissions would not be a cumulatively considerable contribution to a significant cumulative effect due to a conflict with SJVAPCD's air quality plans.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-7:</b> The Project's generation of emissions would not contribute to a significant adverse cumulative impact due to violations of ambient air quality standards.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-8:</b> The Project would not cause or contribute to a significant cumulative impact due to exposure of sensitive receptors to substantial pollutant concentrations.  | None required.   | Less than Significant                  |
| <b>Impact 3.4-9:</b> The Project would not cause or contribute to a significant adverse cumulative impact due to the generation of odor or dust emissions.   | None required.   | Less than Significant                  |
| <b>Biological Resources</b>  |  |  |
| <b>Impact 3.5-1:</b> The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. | <p><b>Mitigation Measure 3.5-1: Protection of San Joaquin Kit Fox</b> Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 consistent with the USFWS [1999] <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox</i>), buffer distances shall be established before each phase of construction activities.</p> <ul style="list-style-type: none"> <li>If avoidance of the potential dens is not feasible, the following measures shall be implemented prior to ground disturbance within 100 feet of the den to avoid potential adverse effects on the San Joaquin kit fox:</li> </ul> | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <p><b>Biological Resources (cont.)</b></p> <p><b>Impact 3.5-1 (cont.)</b></p> | <ul style="list-style-type: none"> <li>• If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent coyotes, foxes, or other animals from reusing them during construction per USFWS (1999) guidance.</li> <li>• If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installing one-way doors at burrow entrances, monitoring the burrow for 72 hours to confirm that usage has been discontinued, and excavating and collapsing the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the Project boundary, the dens shall be hand-excavated as stated above for inactive dens.</li> </ul> <p><b>Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources.</b> During construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement the following general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species:</p> <ul style="list-style-type: none"> <li>• Prior to initiation of ground-disturbing activities and for each phase of construction or decommissioning activities, the Project owner or its contractor shall implement a worker environmental awareness program (WEAP) to train construction personnel on how to recognize and protect biological resources on the Project site. The WEAP training shall include a review of the special-status species and other sensitive biological resources that could exist in the Project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources, highlighting nesting birds protected under the MBTA, San Joaquin kit fox, and Swainson's hawk. The WEAP training shall indicate the appropriate steps to be taken if a special-status species is observed, which may include work stoppage and coordination with CDFW and USFWS.</li> <li>• The Project owner shall limit areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging before construction to avoid special-status species, under the guidance of a qualified biologist. Construction-related activities, vehicles, and equipment outside of the impact zone shall be avoided. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.</li> <li>• To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by construction personnel for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow them to escape. If a special-status species is trapped, USFWS and/or CDFW shall be contacted immediately.</li> <li>• All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at a construction site for one or more overnight periods shall be thoroughly inspected by construction personnel for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist</li> </ul> |  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <p><b>Biological Resources (cont.)</b></p> <p><b>Impact 3.5-1 (cont.)</b></p> <p><b>Impact 3.5-2:</b> The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p> | <p>has been consulted and the animal either has moved from the structure on its own accord or has been captured and relocated by the qualified biologist. If the trapped animal is a special-status species, USFWS and/or CDFW shall be consulted before relocation.</p> <ul style="list-style-type: none"> <li>• Before moving vehicles and equipment parked on the site, construction personnel shall inspect the ground beneath the vehicles and equipment for the presence of wildlife.</li> <li>• Vehicular traffic shall use existing routes of travel. Cross-country vehicle and equipment use outside of the Project properties shall be prohibited.</li> <li>• A speed limit of 20 miles per hour shall be enforced within all construction areas.</li> <li>• A long-term trash abatement program shall be established for construction, operation, and decommissioning and shall be submitted to the County. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to wildlife such as common raven (<i>Corvus corax</i>), coyote (<i>Canis latrans</i>), and feral dogs.</li> <li>• Workers shall be prohibited from bringing pets (excluding service animals) to the Project site and from feeding wildlife in the vicinity.</li> <li>• Intentional killing or collection of any wildlife species shall be prohibited.</li> </ul> <p><b>Mitigation Measure 3.5-3: Protection of Nesting Birds</b> If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to August 31), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 14 days prior to each phase of construction activities. If construction is halted for 14 days or more, the area shall be re-surveyed prior to resuming work.</p> <p>Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project 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 around active nests (e.g., 300 feet for common raptors; 0.25 mile for Swainson's hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.</p> <p>None required.</p> | <p>Less than Significant</p>           |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Biological Resources (cont.)</b>  |  |  |
| <b>Impact 3.5-3:</b> The Project would conflict with General Plan Goal OS-E, which protects wildlife resources.  | <b>Mitigation:</b> Implement Mitigation Measure 3.5-1: Protection of Special-Status Species; Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources; and Mitigation Measure 3.5-3: Protection of Nesting Birds.  | Less than Significant                  |
| <b>Impact 3.5-4:</b> The Project would not conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.  | None required.   | Less than Significant                  |
| <b>Impact 3.5-5:</b> The Project would not cause or contribute to a potential significant cumulative impact by having 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 CDFW and USFWS. | None required.   | Less than Significant                  |
| <b>Impact 3.5-6:</b> The Project would not cause or contribute to any significant cumulative effect due to substantial interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.                              | None required.   | Less than Significant                  |
| <b>Impact 3.5-7:</b> The Project would not cause or contribute to any significant impact due to conflict with General Plan Goal OS-E, which protects wildlife resources.   | None required.   | Less than Significant                  |
| <b>Impact 3.5-8:</b> The Project would not cause or contribute to any significant impact due to conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.   | None required.   | Less than Significant                  |
| <b>Cultural and Tribal Cultural Resources</b>  |  |  |
| <b>Impact 3.6-1:</b> Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.   | <b>Mitigation Measure 3.6-1: Cultural Resources Awareness Training.</b> The Project Applicant shall retain a qualified archaeologist during each construction phase to carry out all mitigation measures related to archaeological and historical resources.<br><br>Prior to the start of any ground-disturbing activities for each construction phase, the Project Applicant shall ensure that the qualified archaeologist has conducted cultural resources awareness training for all construction personnel participating in Project ground-disturbing activities. Additional cultural resources awareness trainings will be conducted for new construction personnel participated in Project ground-disturbing activities who may join the Project | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <b>Cultural and Tribal Cultural Resources</b>   |   |  |
| <p><b>Impact 3.6-1 (cont.)</b></p>  | <p>after the start of each construction phase. A Native American–designated representative shall be invited to attend and provide additional materials during each training. The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. A sign-in sheet shall be completed, retained by the Project construction contractor for the duration of Project construction to demonstrate attendance at the awareness training, and provided to the County upon the completion of Project construction.</p> <p><b>Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources.</b> In the event archaeological materials are encountered during Project construction activities, the Project construction contractor shall immediately cease any ground-disturbing activities within 100 feet of the find. The qualified archaeologist (and a Native American–designated representative if the resource is Native American–related) shall evaluate the significance of the resources for California Register of Historical Resources eligibility and recommend appropriate treatment measures to the County and the Applicant. Per CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist (in coordination with a Native American–designated representative if the resource is Native American–related) shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric, tribal cultural resources, or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County and to the Southern San Joaquin Valley Information Center. Construction can commence based on direction of the qualified archaeologist with the County’s agreement.</p> |  |
| <p><b>Impact 3.6-2:</b> Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a).</p> | <p><b>Mitigation:</b> Implement Mitigation Measures 3.6-1, 3.6-2.</p>   | Less than Significant                  |
| <p><b>Impact 3.6-3:</b> The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources.</p>  | <p><b>Mitigation:</b> Implement Mitigation Measures 3.6-1, 3.6-2.</p>   | Less than Significant                  |
| <p><b>Impact 3.6-4:</b> The Project would not cause a cumulatively considerable contribution to any significant impact due to damage to previously unidentified human remains.</p>  | <p>None required.</p>   | Less than Significant                  |



**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures | Level of Significance after Mitigation |
|--|---------------------|--|
| <b>Energy</b>  |                     |  |
| <b>Impact 3.7-1:</b> Project construction, operation and maintenance, and/or decommissioning and site reclamation would not result in the wasteful, inefficient, or unnecessary consumption or use of energy.  | None required.      | Less than Significant                  |
| <b>Energy (cont.)</b>  |                     |  |
| <b>Impact 3.7-2:</b> The Project would not cause or contribute to a significant cumulative effect due to the wasteful, inefficient, or unnecessary consumption or use of energy.   | None required.      | Less than Significant                  |
| <b>Geology, Soils, and Paleontological Resources</b>   |                     |  |
| <b>Impact 3.8-1:</b> The Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.   | None required.      | Less than Significant                  |
| <b>Impact 3.8-2:</b> The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.   | None required.      | Less than Significant                  |
| <b>Impact 3.8-3:</b> The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.                                    | None required.      | Less than Significant                  |
| <b>Impact 3.8-4:</b> The Project would not result in substantial soil erosion or loss of topsoil.  | None required.      | Less than Significant                  |
| <b>Impact 3.8-5:</b> The Project would not 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 lateral spreading, subsidence, liquefaction, or collapse. | None required.      | Less than Significant                  |
| <b>Impact 3.8-6:</b> The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property.  | None required.      | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures  | Level of Significance after Mitigation |
|---|--|--|
| <b>Geology, Soils, and Paleontological Resources (cont.)</b>  |  |  |
| <b>Impact 3.8-7:</b> The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater. | None required.   | Less than Significant                  |
| <b>Impact 3.8-8:</b> The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.   | <b>Mitigation Measure 3.8-1: Paleontological Monitoring.</b> The qualified paleontologist shall oversee paleontological monitoring of all excavation at depths at or greater than 10 feet in previously undisturbed sediments. Monitoring shall be conducted by a paleontological monitor meeting the standards of the SVP (2010). If a paleontological resource is found, regardless of depth or setting, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and contact the qualified paleontologist. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any significant fossils encountered and recovered shall be catalogued and curated at an accredited institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository. The qualified paleontologist shall prepare a report documenting evaluation and/or additional treatment of the resource. The report shall be filed with the County and with the repository. | Less than Significant                  |
| <b>Impact 3.8-9:</b> The Project would not cause or contribute to a significant cumulative effect related to seismicity.  | None required.   | Less than Significant                  |
| <b>Impact 3.8-10:</b> The Project would not cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil.   | None required.   | Less than Significant                  |
| <b>Impact 3.8-11:</b> The Project would not cause or contribute to a significant cumulative effect to paleontological resources.  | <b>Mitigation:</b> Implement Mitigation Measure 3.8-1.   | Less than Significant                  |
| <b>Greenhouse Gas Emissions</b>   |  |  |
| <b>Impact 3.9-1:</b> The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment.  | None required.   | Less than Significant                  |
| <b>Impact 3.9-2:</b> The Project could conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.  | None required.   | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <p><b>Hazards and Hazardous Materials</b></p>   |   |  |
| <p><b>Impact 3.10-1:</b> The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p>   | <p>None required.</p>   | <p>Less than Significant</p>           |
| <p><b>Impact 3.10-2:</b> The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment.</p> | <p><b>Mitigation Measure 3.10-1: Soil Management Plan.</b> The Applicant shall require that its contractor(s) develop and implement a soil management plan before the start of any ground-disturbing activity. The soil management plan shall describe the hazardous materials that may be encountered (specifically, the previously noted areas that may have contaminated soil); the roles and responsibilities of on-site workers and supervisors; training for site workers focused on the recognition of and response to encountering hazardous materials; and protocols for testing the soil to evaluate the proper handling, removing, transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner.</p> <p>Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action. If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.</p> | <p>Less than Significant</p>           |
| <p><b>Impact 3.10-3:</b> The Project could impair implementation of or physically interfere with emergency response or emergency evacuation.</p>  | <p><b>Mitigation Measure 3.10-2: Traffic Management Plan.</b> At least 30 days prior to the issuance of construction or building permits, including for the initiation of on-site work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the Caltrans <i>Manual on Uniform Traffic Control Devices</i> and <i>Work Area Traffic Control Handbook</i> and must include, but not be limited to, the following elements:</p> <ul style="list-style-type: none"> <li>• A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.</li> <li>• Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.</li> </ul>   | <p>Less than Significant</p>           |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Hazards and Hazardous Materials (cont.)</b>   |  |  |
| <p><b>Impact 3.10-3 (cont.)</b></p>  | <ul style="list-style-type: none"> <li>• Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.</li> <li>• Requirement to place temporary signage, 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 and to advise of alternate routes.</li> <li>• Measures to ensure access for emergency vehicles to the Project site.</li> <li>• Maintenance of access to adjacent properties.</li> <li>• Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.</li> <li>• Requirement to obtain all necessary permits for the work within the road right-of-way or the use of oversized/overweight vehicles that would utilize County-maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.</li> <li>• A secured agreement between the Applicant and Fresno County to ensure that any County roads that are demonstrably damaged by Project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the state and/or Fresno County.</li> </ul> <p>The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways.</p> | Less than Significant                  |
| <p><b>Impact 3.10-4:</b> The Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment.</p> | <p><b>Mitigation:</b> Implement Mitigation Measure 3.10-1.</p>   | Less than Significant                  |
| <p><b>Impact 3.10-5 :</b> The Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation.</p>   | <p><b>Mitigation:</b> Implement Mitigation Measure 3.10-2.</p>   | Less than Significant                  |
| <b>Hydrology and Water Quality</b>   |  |  |
| <p><b>Impact 3.11-1:</b> The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.</p>  | <p><b>Mitigation:</b> Implement Mitigation Measure 3.10-1, Soil Management Plan.</p>   | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures   | Level of Significance after Mitigation |
|--|---|--|
| <b>Hydrology and Water Quality (cont.)</b>   |   |  |
| <p><b>Impact 3.11-2:</b> The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.</p>  | None required.  | Less than Significant                  |
| <p><b>Impact 3.11-3:</b> The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which: (i) Results in substantial erosion or siltation on- or off-site; (ii) substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) creates or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff; or (iv) impedes or redirects flood flows.</p> | None required.  | Less than Significant                  |
| <p><b>Impact 3.11-4:</b> The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</p>  | <b>Mitigation:</b> Implement Mitigation Measure 3.10-1, Soil Management Plan. | Less than Significant                  |
| <p><b>Impact 3.11-5:</b> The Project would make a less than cumulatively considerable contribution to cumulative effects relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</p>  | None required.  | Less than Significant                  |
| <p><b>Impact 3.11-6:</b> The Project would not cause a cumulatively considerable contribution to decreased groundwater supplies or substantial interference with groundwater recharge such that the sustainable groundwater management of the basin could be impeded.</p>  | None required.  | Less than Significant                  |
| <p><b>Impact 3.11-7:</b> The Project would not cause a cumulatively considerable contribution to a significant impact due to substantial alteration of the existing drainage pattern of the site or area.</p>  | None required.  | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures  | Level of Significance after Mitigation |
|---|--|--|
| <b>Noise and Acoustics</b>  |  |  |
| <p><b>Impact 3.14-1:</b> The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p> | <p><b>Mitigation Measure 3.14-1: Noise Reduction for Construction Activities.</b> Prior to issuance of construction permits for the project, the Project Applicant shall submit to the County for approval a construction noise reduction plan to be implemented by all contractors as a condition of contract. Contents of the plan should include at a minimum:</p> <ul style="list-style-type: none"> <li>• Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.</li> <li>• Limit use of pile drivers and major excavating and earth-moving machinery to daytime hours.</li> <li>• Equip any internal combustion engine used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.</li> <li>• For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.</li> <li>• Limit possible evening and nighttime shift work to low-noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment such that noise levels at 50 feet are less than 80 dBA</li> </ul> | Less than Significant                  |
| <p><b>Impact 3.14-2:</b> The Project would not expose people and/or structures to excessive vibration levels.</p>   | None required.   | Less than Significant                  |
| <p><b>Impact 3.14-3:</b> The Project would not cause a cumulatively considerable contribution to any significant noise or vibration impact.</p>   | None required.   | Less than Significant                  |
| <b>Transportation</b>   |  |  |
| <p><b>Impact 3.18-1:</b> Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system.</p>  | <p><b>Mitigation:</b> Implement Mitigation Measure 3.10-2: Construction Traffic Management Plan, set forth in Section 3.10, <i>Hazards and Hazardous Materials</i>.</p>  | Less than Significant                  |
| <p><b>Impact 3.18-2:</b> The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</p>   | None required.   | Less than Significant                  |
| <p><b>Impact 3.18-3:</b> The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p>  | None required.   | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Transportation (cont.)</b>  |  |  |
| <b>Impact 3.18-4:</b> The Project would not result in inadequate emergency access.   | None required.   | Less than Significant                  |
| <b>Impact 3.18-5:</b> The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation.   | <b>Mitigation:</b> Implement Mitigation Measure 3.10-2.  | Less than Significant                  |
| <b>Utilities and Service Systems</b>   |  |  |
| <b>Impact 3.19-1:</b> The Project would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.                       | None required.   | Less than Significant                  |
| <b>Impact 3.19-2:</b> The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.  | <b>Mitigation Measure : 3.19-1: Determine Future Water Supply Availability.</b> Eighteen (18) years after the issuance of the conditional use permit, the Project owner shall identify and provide an analysis to the County that the water supply source(s) proposed for use during the remaining operation, maintenance, and decommissioning activities are sufficient and will not impede sustainable groundwater management of the basin. If sufficient water supplies are not available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years, then Project decommissioning would be initiated. | Less than Significant                  |
| <b>Impact 3.19-3:</b> The Project would 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. | None required.   | Less than Significant                  |
| <b>Impact 3.19-4:</b> The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.                                       | None required.   | Less than Significant                  |
| <b>Impact 3.19-5:</b> The Project would not cause or contribute to any significant adverse cumulative impact to utilities and service systems.   | None required.   | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures | Level of Significance after Mitigation |
|--|---------------------|--|
| <b>Wildfire</b>  |                     |  |
| <b>Impact 3.20-1:</b> The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.  | None required.      | Less than Significant                  |
| <b>Impact 3.20-2:</b> The Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.  | None required.      | Less than Significant                  |
| <b>Impact 3.20-3:</b> The Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. | None required.      | Less than Significant                  |
| <b>Impact 3.20-4:</b> The Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.  | None required.      | Less than Significant                  |
| <b>Impact 3.20-5:</b> The Project would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.   | None required.      | Less than Significant                  |

**NOTES:**

Applicant = Key Energy Storage, LLC; Caltrans = California Department of Transportation; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CHP = California Highway Patrol; County = Fresno County; dBA = A-weighted decibels; GHG = greenhouse gas; MBTA = Migratory Bird Treaty Act; MLD = Most Likely Descendant; NAHC = Native American Heritage Commission; O&M = operation and maintenance; PG&E = Pacific Gas and Electric Company; Project = Key Energy Storage Project; SJVAPCD = San Joaquin Valley Air Pollution Control District; SMP = Soil Management Plan; SOI = Secretary of the Interior; SSJVIC = Southern San Joaquin Valley Information Center; SVP = Society of Vertebrate Paleontology; USFWS = U.S. Fish and Wildlife Service; WEAP = Worker Environmental Awareness Program; Williamson Act = California Land Conservation Act of 1965

\* For five of the resource areas considered under CEQA—Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Recreation—no impact would occur relative to any of the CEQA Guidelines Appendix G Environmental Checklist considerations. Therefore, these resource areas are not included in this table.

SOURCE: Data compiled by Environmental Science Associates in 2023



## ES.6 Overview of Alternatives to the Project

CEQA requires that an EIR analyze a reasonable range of alternatives to the project that could feasibly attain the basic objectives of the project while substantially reducing or eliminating significant environmental effects. CEQA also requires that an EIR evaluate a “no project” alternative to allow decision-makers to compare the impacts of approving a project with the impacts of not approving the project. The alternatives development and screening process, alternatives eliminated from further consideration, and alternatives considered in the EIR are described in greater detail in Chapter 4, *Alternatives*.

### ES.6.1 Alternatives Eliminated from Further Consideration

Consistent with CEQA Guidelines Section 15126.6, the County eliminated the potential alternatives listed below from detailed consideration in this EIR if they failed to meet the screening criteria outlined in Section 4.1, *Alternatives Screening and Development Process*:

- Alternative sites, including a Westlands Solar Park alternative.
- Alternative technologies, including compressed-air energy storage, flywheel energy storage, and hydrogen energy storage alternatives.

### ES.6.2 Alternatives Considered in the EIR

The County initially considered and then carried forward the following three alternatives for more detailed evaluation:

- The CEQA-required No Project Alternative is described in Section 4.3.1 of Chapter 4, *Alternatives*. It reflects existing conditions at the time the notice of preparation of this EIR was published, as well as what reasonably would be 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.
- Alternative 1, Noncontracted Lands Alternative, is described in Section 4.3.2 of Chapter 4. Alternative 1 would occupy the up to 160 acres that compose the southernmost (noncontracted) Project site parcels. The northernmost (Williamson Act–contracted) Project site parcel would remain outside the Alternative 1 site and in irrigated agricultural production with continued reliance on the on-site well.
- Alternative 2, Reduced Project Alternative, is described in Section 4.3.3 of Chapter 4. Alternative 2 would occupy up to 130 acres of the 318-acre Project site with an anticipated operating footprint of 104 acres. The remaining 26 acres would be available for construction and flexibility. Alternative 2 would reduce by half the area that the Project proposes to develop with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and other Project infrastructure.

### ES.6.3 Comparison of Alternatives

Table 4-8, *Comparison of Alternatives*, in Chapter 4 comparatively analyzes the impacts of the No Project, Alternative 1, and Alternative 2 relative to the Project. The No Project Alternative

would avoid all impacts of the Project and instead would result in the environmental benefits and consequences that reasonably would be expected to occur based on the site’s current use as active or fallowed agricultural land. **Table ES-3, Comparison of Impacts**, summarizes the comparison of impacts among the Project, Alternative 1, and Alternative 2. See Table 4-8 for details.

**TABLE ES-3  
COMPARISON OF IMPACTS**

| <b>Resource Area</b>                          | <b>Alternative 1</b>   | <b>Alternative 2</b>                 |
|---|--|--------------------------------------|
| Aesthetics                                    | Same as the Project  | Same as the Project                  |
| Agriculture and Forestry Resources            | Less than the Project  | Less than the Project                |
| Air Quality                                   | Less than the Project  | Less than the Project                |
| Biological Resources                          | Less than the Project  | Less than the Project                |
| Cultural and Tribal Resources                 | Similar to but less than the Project   | Similar to but less than the Project |
| Energy  | Less than the Project  | Similar to but less than the Project |
| Geology, Soils, and Paleontological Resources | Greater than the Project for paleontological resources; same as the Project for other impacts to geology and soils | Same as the Project                  |
| Greenhouse Gas Emissions                      | Similar to but less than the Project   | Similar to but less than the Project |
| Hazards and Hazardous Materials               | Less than the Project  | Same as the Project                  |
| Hydrology and Water Quality                   | Less than the Project  | Similar to but less than the Project |
| Land Use and Planning                         | Same as the Project  | Same as the Project                  |
| Mineral Resources                             | Same as the Project  | Same as the Project                  |
| Noise and Acoustics                           | Similar to but less than the Project   | Less than the Project                |
| Population and Housing                        | Same as the Project  | Same as the Project                  |
| Public Services                               | Same as the Project  | Same as the Project                  |
| Recreation                                    | Same as the Project  | Same as the Project                  |
| Transportation                                | Similar to but less than the Project   | Similar to but less than the Project |
| Utilities and Service Systems                 | Similar to but less than the Project   | Similar to but less than the Project |
| Wildfire                                      | Same as the Project  | Same as the Project                  |

NOTE: Project = Key Energy Storage Project

SOURCE: Data compiled by Environmental Science Associates in 2023

## ES.7 Environmentally Superior Alternative

The CEQA Guidelines define the *environmentally superior alternative* as that alternative with the least adverse impacts on the project area and its surrounding environment. The No Project Alternative is considered the environmentally superior alternative for CEQA purposes because it would avoid all impacts of the Project. However, the No Project Alternative would fail to meet the basic objectives of the Project. In addition, the No Project Alternative would not offset greenhouse gas emissions associated with nonrenewable energy use the way the Project would make possible. Because the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives.

Determining an environmentally superior alternative can be difficult because of the many factors that must be balanced. Nonetheless, at this draft stage, Alternative 1 has been determined to be preferred because, relative to the Project, it would avoid the Project's significant unavoidable impact related to a conflict with an existing Williamson Act contract and would avoid potential significant impacts of the Project on water quality and hazardous materials related to the disturbance of known contaminated soil. Alternative 1 would reduce impacts relative to the Project in six resource areas: Agriculture and Forestry Resources, Air Quality, Biological Resources, Energy, Hazards and Hazardous Materials, and Hydrology and Water Quality. However, Alternative 1 would have a greater environmental impact than the Project in one area: Paleontological Resources. By comparison, Alternative 2 would not avoid any of the significant impacts of the Project but would reduce impacts in four resource areas: Agriculture and Forestry Resources, Air Quality, Biological Resources, and Noise and Acoustics.

Additional information received in or developed during the agency and public review period for the Draft EIR, or during the Project approval process, could affect the balancing of the respective benefits and consequences of the alternatives. Accordingly, while a preliminary determination has been made that Alternative 1 would be the Environmentally Superior Alternative, it would be premature to formally designate it as such at this stage. This preliminary determination as to which alternative is the Environmentally Superior Alternative will be confirmed or corrected in the Final EIR.

## ES.8 Areas of Controversy

Any of the environmental issues considered during scoping or in this Draft EIR could become an issue of controversy. Preliminarily, the County has identified areas of controversy as including the issues and questions raised in agency and public comments received during scoping; all comments received during the scoping period are included in the Project Scoping Report, which is included as **Appendix A** to this Draft EIR. Issues identified as potential areas of controversy relate to Aesthetics, Air Quality, Biological Resources, Hazards and Hazardous Materials, Public Services, and Transportation.

## ES.9 Issues to Be Resolved

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved, which include the choice among alternatives and whether or how to mitigate significant impacts. The following major issues are to be resolved:

- Determine whether the EIR adequately describes the environmental impacts of the Project.
- Choose among alternatives.
- Determine whether the recommended mitigation measures should be adopted or modified.
- Determine whether additional mitigation measures need to be applied to the Project.

## ES.10 References

DOF (California Department of Finance), 2022a. E-5 Population and Housing Estimates for Cities, Counties and the State—January 1, 2021–2022. Available: <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/>. Accessed March 22, 2023.

DOF, 2022b. Table 1: E-5 County/State Population and Housing Estimates, April 1, 2020.

EDD (California Employment Development Department), 2022. Local Area Unemployment Statistics (LAUS)—Fresno County.

# CHAPTER 1

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## Introduction

### 1.1 Purpose of this Document

This draft environmental impact report (Draft EIR) (Environmental Impact Report [EIR] No. 8189) is an informational document that examines and discloses the potential environmental impacts of the Key Energy Storage Project (Project), as proposed by Key Energy Storage, LLC (Applicant). Fresno County (County) will rely on this EIR, along with other information in the formal record, in deciding whether to approve, approve with modifications, or disapprove the application for the unclassified conditional use permit (CUP) requested for the Project (CUP No. 3734). Other agencies with trustee responsibilities or permitting authority over the Project also may rely on this document in deciding whether to approve permits or issue other approvals for the Project.

### 1.2 Project Overview

Key Energy Storage, LLC (the Applicant) proposes to construct, operate, maintain, and decommission an energy storage facility on up to 260 acres of private land in western Fresno County. Project build-out would occur in four phases. At full build-out, the Project is expected to have capacity to store up to 3 gigawatts of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed.<sup>1</sup> The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of either a lithium-ion battery option or a lithium-ion and iron-flow storage option. On-site support facilities would include a collector substation; power conversion systems, including bi-directional inverters,<sup>2</sup> transformers,<sup>3</sup> and associated connection lines; heating, ventilation, and air conditioning units; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line between the

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<sup>1</sup> The anticipated capacity is an estimate based on currently available technology. The energy storage industry has evolved substantially in the last few years and is anticipated to continue to evolve. While the components and total capacity of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

<sup>2</sup> An *inverter* connects to the electric power grid and converts direct current (DC) electric power to alternating current (AC).

<sup>3</sup> A *transformer* converts AC from one voltage to another. For example, it can be designed to “step up” to a higher voltage or “step down” to a lower one.

Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation, which is located in Buttonwillow, an unincorporated community in Kern County, California.

## 1.3 Use of This Document by Agencies

California Environmental Quality Act (CEQA) Guidelines Section 15124(d) requires that an EIR contain a statement briefly describing the intended uses of the EIR. The CEQA Guidelines indicate that the EIR should identify the ways in which the Lead Agency and any responsible agencies would use this document in their approval or permitting processes. The following discussion summarizes the roles of the agencies and the intended uses of this EIR.

Fresno County has the primary responsibility for considering whether to grant its discretionary approval of the Project, is the CEQA Lead Agency for purposes of this Draft EIR, and has directed the preparation of this Draft EIR as an informational document. The purpose of the EIR is not to recommend either approval or denial of the Project, but rather to inform decision-makers and members of the public of the potential environmental consequences of the Project. The County and other agencies with permitting authority over the Project will rely on this environmental analysis when considering whether to approve, approve with conditions, or deny necessary discretionary approvals.<sup>4</sup> See Section 2.1, *Permits and Approvals*.

## 1.4 Public Participation

### 1.4.1 Scoping

On July 25, 2022, the County published and distributed a notice of preparation (NOP) to advise interested local, regional, state, and federal agencies, as well as the public, that an EIR would be prepared for the Project. The NOP was sent to a mailing list that included Tribes; local, state, and federal agencies; property owners within 1 mile of the Project site; other interested parties; and the Governor's Office of Planning and Research, State Clearinghouse. The NOP and NOP mailing list are included in the scoping report provided as **Appendix A**. The NOP was also posted with the Fresno County Clerk, emailed to each person on the initial Project-specific distribution list for whom the County had an email address, and posted on the County's website. The NOP solicited comments on the scope and content of the EIR. Agencies and members of the public were encouraged to submit their comments to the County by email or U.S. Mail, or during a virtual public meeting held August 9, 2022. In addition to the NOP, the County notified the public about the public scoping meeting through a newspaper legal advertisement published in *The Business Journal* on July 25, 2022. Notifications provided basic Project information; the

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<sup>4</sup> Because environmental considerations are but one of multiple factors that may be taken into consideration when an agency is deciding whether to approve a proposal, County decision-makers also will consider factors outside the scope of CEQA when deciding whether to approve the Project.

date, time, and information about how to participate in the scoping meeting; and a brief explanation of the public scoping process.

The County conducted the first of two virtual public scoping meetings on Tuesday, August 9, 2022, beginning at 2:30 p.m. The presentation included an overview of the Project, the County's land use and permitting process, and the environmental review process. Input was requested as to environmental considerations of particular interest and with respect to potential alternatives to the Project. Meeting participants included Jeremy Shaw and David Randall of Fresno County Department of Public Works and Planning, and Janna Scott and Steven Johnson of Environmental Science Associates. One member of the public called in to the meeting; one other attended via the online meeting platform. No comments were received during the meeting. The County conducted a second virtual public scoping meeting on September 21, 2022, beginning at 10 a.m. A substantially similar presentation was given at both meetings. David Randall, Janna Scott, and Steven Johnson participated in the second meeting. Several members of the public attended via the online meeting platform, but no comments were received during the meeting. Copies of both presentations and a transcript of the September 21, 2022, meeting are provided in Appendix A.

The County received eight letters during the scoping period. Issues raised in each letter are summarized in the scoping report (Appendix A) and copies of the letters themselves are provided there. Input provided in these letters has been considered in the analysis documented in this EIR.

## 1.4.2 Public Comment on the Draft EIR

This Draft EIR is available to Tribes, to federal, state, and local agencies, and to interested individuals who may wish to review and comment on it. An electronic copy of the Draft EIR and reference materials relied upon in its drafting will be available during the public comment period on the County's website: <http://www.co.fresno.ca.us/EIR>.

Printed copies of the Draft EIR, or electronic copies provided on USB device, will be available to check out at each of the locations listed below. Electronic copies at these locations will contain copies of the reference materials cited and relied upon in the analysis.

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.
- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno.
- Kings County Library Kettleman City Branch, 104 Becky Pease Street, Kettleman City.

Written comments may be submitted to the County during a 45-day public review period. Written comments on this Draft EIR will be accepted via U.S. Mail or email. If a public meeting is to be held, it will be noticed under separate cover. All comments received will be addressed in a Response to Comments document, which together with this Draft EIR will constitute the Final EIR for the Project.

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# CHAPTER 2

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## Project Description

### 2.1 Project Overview

Key Energy Storage, LLC (the Applicant) proposes to construct, operate, maintain, and decommission an energy storage facility on up to 260 acres of private land in western Fresno County. The requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. At full build-out, the Project is expected to have capacity to store up to 3 gigawatts (GW) of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed.<sup>1</sup> The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of batteries using lithium-ion and/or iron-flow storage technology. On-site support facilities would include a collector substation; power conversion systems (PCSs), including bi-directional inverters,<sup>2</sup> transformers,<sup>3</sup> and associated connection lines; heating, ventilation, and air conditioning (HVAC) units or a liquid cooling system; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt (kV) transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation.

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<sup>1</sup> The gigawatt capacity is an estimate based on currently available technology. The energy storage industry has evolved substantially in the last few years and is anticipated to continue to evolve (Kennedy 2022). While the components and total capacity of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

<sup>2</sup> An inverter connects to the electric power grid and converts direct current (DC) electric power to alternating current (AC).

<sup>3</sup> A transformer converts AC from one voltage to another; for example, it can be designed to “step up” to a higher voltage or “step down” to a lower one.

## 2.2 Location of the Project Site

The Project would be developed on up to 260 acres of private property in western Fresno County within the approximately 318-acre area consisting of Assessor's Parcel Numbers (APNs) 085-040-58, 085-040-36, and 085-040-37 (Project site). The Project site is located approximately 11.5 miles east of Coalinga, 7.5 miles north of Avenal, 4 miles southwest of Huron, 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route 269). It is adjacent to existing transmission lines and the Gates Substation. Vehicles would access the site from West Jayne Avenue via agricultural roads along the eastern and western site boundaries. See **Figure 2-1, Regional Location**, and **Figure 2-2, Project Site**. PG&E's existing Midway Substation, is located approximately 63 miles southeast of the Project site at 2205 Wasco Way in Buttonwillow, an unincorporated community in Kern County, California.<sup>4</sup>

## 2.3 Existing Land Uses

### 2.3.1 On-site Land Uses

The Fresno County (County) General Plan's land use designation of the Project site is Agriculture. The battery energy storage facility portion of the Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel) pursuant to Section 816 of the County Code. The Gates Substation is zoned AE-20 (Exclusive Agriculture, 20-acre minimum parcel). The AE District is intended to be an exclusive district for agriculture and for those uses that are necessary and an integral part of the agricultural operation. The Project site is designated as Prime Farmland pursuant to the California Department of Conservation's Farmland Mapping and Monitoring Program. The northernmost of the three parcels that compose the Project site (APN 085-040-58) is subject to Contract 2068, which was entered into between the landowner and the County pursuant to the California Land Conservation Act of 1965 (known as the *Williamson Act*), which enables local governments and private landowners to agree to restrict specific parcels of land to agricultural or related open space use.

Historical agricultural uses on the Project site have included dry farming on two of the parcels (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel via an on-site well (APN 085-040-58). More recently, on-site land uses have included irrigated orchard crops (citrus and almonds) (APN 085-040-58), non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern site boundaries, with the paved West Jayne Avenue forming the northern boundary. Two dirt roads cross east-west through the Project site.

Existing utility infrastructure is located throughout the Project site. An existing groundwater well is located in the northwest portion of the Project site. One PG&E electrical line runs north to south along the northwest side of the Project site, and two PG&E-owned high-voltage

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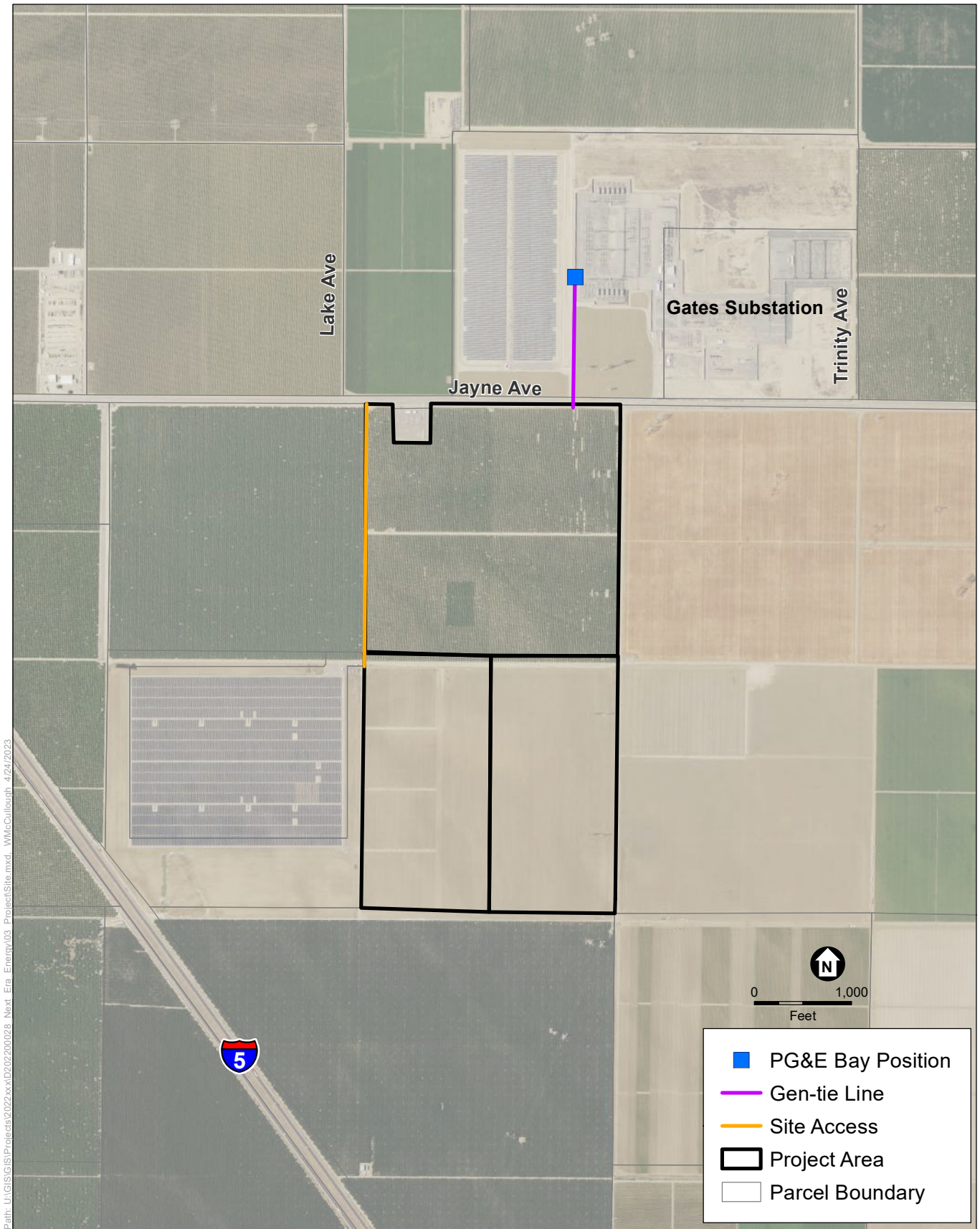
<sup>4</sup> A second street address identified for the Midway Substation is 40358 Highway 58, in Buttonwillow.



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Key Energy Storage Project

**Figure 2-1**  
Regional Location



Key Energy Storage Project

**Figure 2-2**  
Project Site

transmission lines run north to south along the entire east side of the Project site. Underground oil, gas, and water pipelines are found in the center of the southern half of the Project site (Key Energy Storage, LLC 2021a).

The Midway Substation site, where the PG&E interconnection and infrastructure described in Section 2.5.10.2 would occur, consists of Kern County APNs 101-010-10, 101-010-02, 101-010-15, 101-010-05, 101-020-31, 101-020-35, 101-020-27, and 101-020-23. This location is designated in the Kern County General Plan as “4.1,” which is a special treatment area specific to the Midway Substation (Kern County 2023). The site is zoned Limited Agriculture (A-1). According to Kern County Zoning Ordinance Section 19.14.020(D), transmission lines and supporting towers, poles, and underground facilities for electricity service owned and operated by a public utility company under the jurisdiction of the California Public Utilities Commission (CPUC) are allowed without a permit in the A-1 zone. The site is developed consistent with the electric transmission public facility uses allowed by its zoning designation.

### 2.3.2 Surrounding Land Uses

Land uses surrounding the Project site include the PG&E Gates Substation directly north of the site, solar facilities to the north and southwest, a small substation at the Project site’s northwest corner (not included within the Project site), and agriculture to the east, south, and west. The closest community to the Project site is the city of Huron (4 miles northeast of the site). The closest homes to the Project site include agricultural housing located 3,300 feet to the west on West Jayne Avenue; 11,500 feet to the southeast where Modoc Avenue and West Goodrich Avenue intersect; and 17,000 feet to the east on West Jayne Avenue (Appendix J, *Noise and Vibration*). The closest hospital is Coalinga Regional Medical Center, approximately 12 miles northwest of the Project site; the next nearest hospital is Naval Health Clinic, approximately 16 miles to the northeast. The closest school is Huron Middle School, approximately 5 miles to the northeast. The closest libraries to the Project site are the Huron Public Library (approximately 6 miles northeast of the Project site), the Avenal Branch Library (approximately 9 miles to the south), and the Coalinga Library (approximately 13 miles to the northwest). The nearest airport is New Coalinga Municipal Airport, approximately 10 miles west of the Project site. The nearest fire station is Fresno County Fire Protection District Station 93, approximately 5 miles to the northeast. The nearest police station with a patrol area in the Project site is the Patrol Area 1 substation, approximately 40 miles to the north. Keenan Park, approximately 4 miles to the northeast is the closest recreation areas to the Project site. Land uses surrounding the Midway Substation include baseball fields, tennis courts, and other facilities at Buttonwillow Park and agricultural uses to the west, agricultural uses to the north and east, and the farmer’s co-op gin and other agricultural uses to the south.

## 2.4 Project Purpose and Objectives

The purpose of the Project is to reliably and economically receive, store, and discharge electric energy from the California Independent System Operator (CAISO)–controlled electric grid, including renewable energy produced by existing solar and wind resources in the region. The

Project would interconnect to the CAISO-controlled grid at PG&E's existing Gates Substation. The Project objectives are as follows:

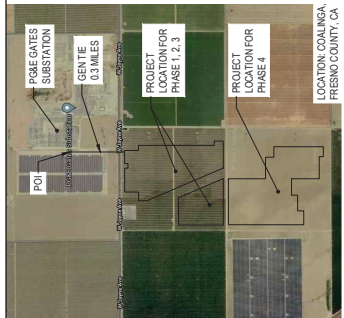
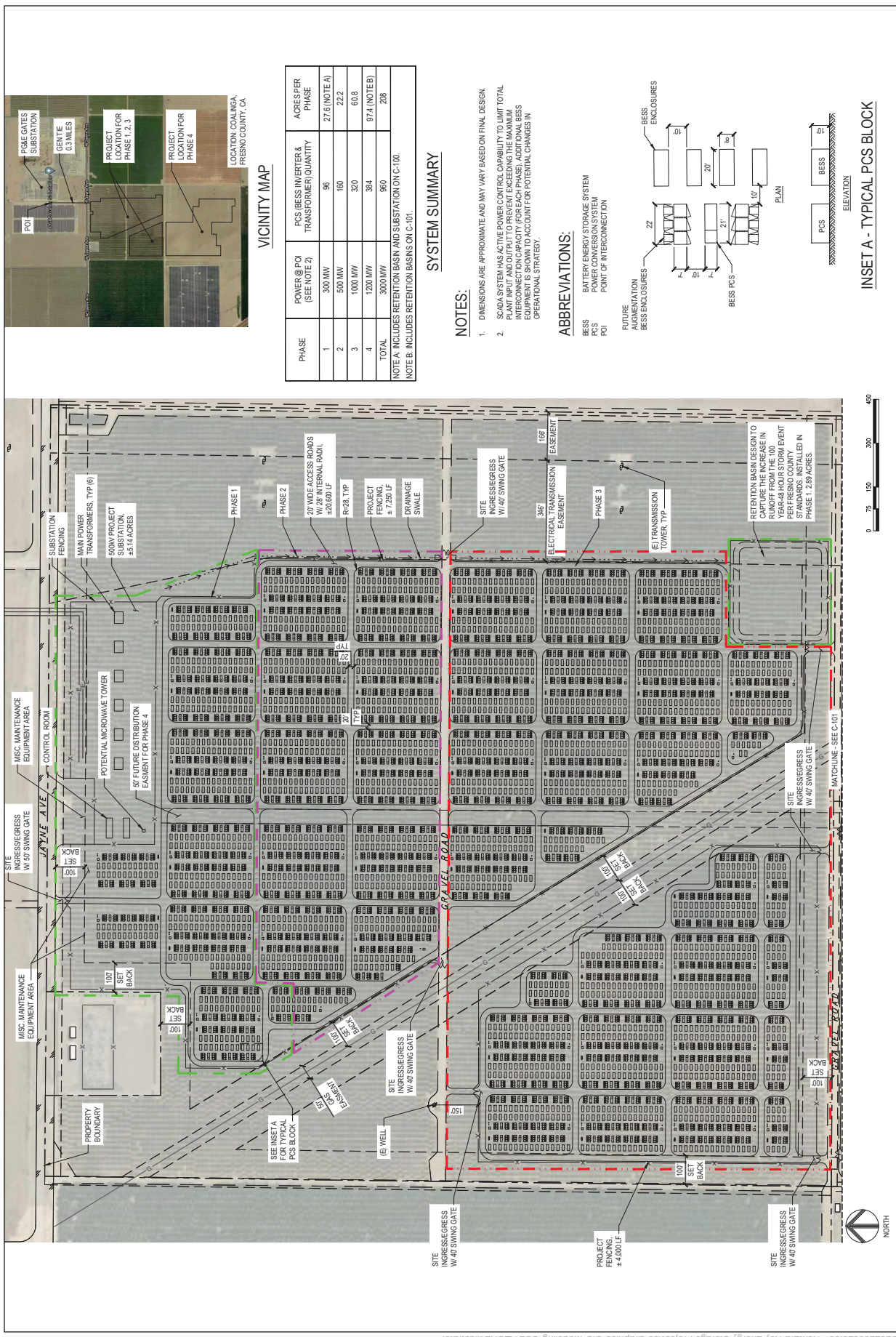
1. Site up to 3 GW of energy storage adjacent to the Gates Substation to support energy grid reliability while minimizing the gen-tie length.
2. Support state policies necessary to improve the reliability of California's energy grid, including Assembly Bill 2514 and the CPUC's February 22, 2021, ruling (R.20-05-003) related to integrated resource planning, including the need for 7,500 megawatts (MW) of net qualifying capacity between 2023 and 2025.
3. Increase local energy storage capacity at Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand.
4. Develop an energy storage facility in Fresno County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.
5. Achieve the above fundamental objectives while avoiding and minimizing environmental impacts.

## 2.5 Description of the Project

The primary components of the Project include the energy storage system, Project substation, and gen-tie line. The discussion that follows describes these components as well as ancillary facilities, details about water waste and hazards, and details about what would occur during Project construction, operation and maintenance (O&M), and decommissioning and site restoration. This section also describes Applicant-proposed measures intended to avoid or reduce anticipated environmental impacts as well as work that would be required to interconnect the Project to the regional power grid. The preliminary site plan and general arrangement of a lithium-ion storage option are shown in **Figure 2-3, Preliminary Site Plan—Lithium Ion Option**. The preliminary site plan and general arrangement of a lithium-ion and iron flow option are shown in **Figure 2-4, Preliminary Site Plan—Lithium Ion and Iron Flow Option**.

### 2.5.1 Project Phasing

The requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. Project development would occur in four phases, with later phases scheduled for implementation based on the region's increasing demand for energy storage. Phase 1 construction would begin in 2024 and Phase 2 would begin in 2025. Phases 3 and 4 would be constructed between 1 and 3 years after the previous phase, based on the region's increasing demand for energy storage. Each construction phase would last between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately 76 months and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated



VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|
| 1     | 300 MW                   | 95   | 27.6 (NOTE A)   |
| 2     | 500 MW                   | 160  | 22.2            |
| 3     | 1000 MW                  | 320  | 60.8            |
| TOTAL | 3000 MW                  | 950  | 97.4 (NOTE B)   |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
NOTE B: INCLUDES RETENTION BASINS ON C-101.

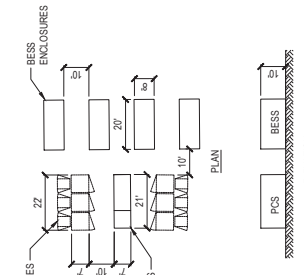
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY FOR EACH PHASE. ADDITIONAL BESS DIMENSIONS WILL BE PROVIDED TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

- BESS BATTERY ENERGY STORAGE SYSTEM
- PCS POWER CONVERSION SYSTEM
- POI POINT OF INTERCONNECTION
- FUTURE AUGMENTATION BESS ENCLOSURES
- BESS ENCLOSURES



INSET A - TYPICAL PCS BLOCK

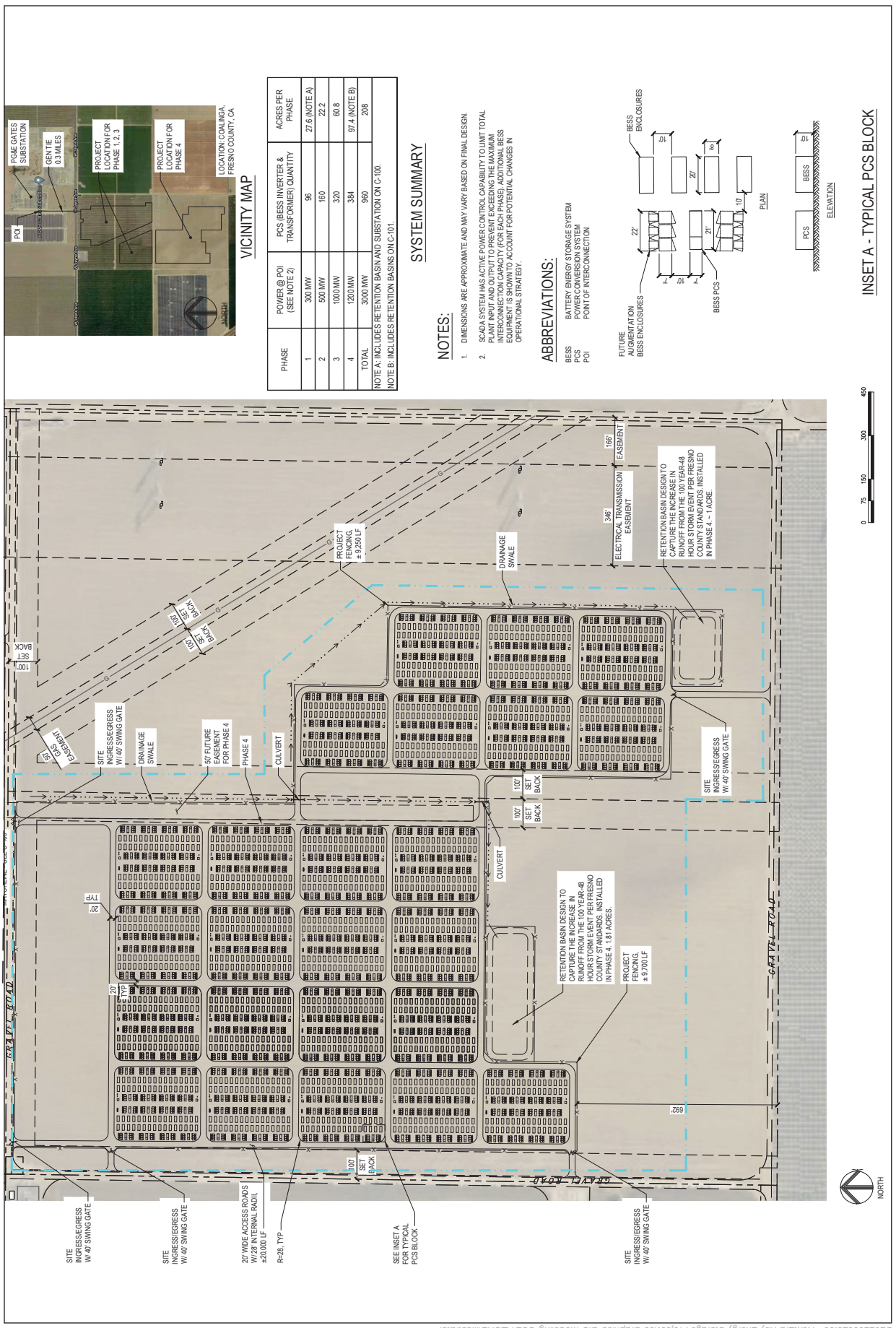
SOURCE: NextEra Energy, 2022

Key Energy Storage Project

Figure 2-3a Preliminary Site Plan—Lithium Ion Option



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| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|
| 1     | 300 MW                   | 96   | 27.6 (NOTE A)   |
| 2     | 500 MW                   | 160  | 22.2            |
| 3     | 1000 MW                  | 320  | 60.8            |
| 4     | 1200 MW                  | 384  | 97.4 (NOTE B)   |
| TOTAL | 3000 MW                  | 960  | 208             |

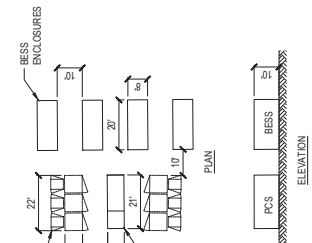
NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
NOTE B: INCLUDES RETENTION BASINS ON C-101.

**SYSTEM SUMMARY**

- NOTES:**
- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
  - SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT OUTPUT AND OUTPUT TO PREVENT EXCESSIVE TEMPERATURES. EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

**ABBREVIATIONS:**

- BESS BATTERY ENERGY STORAGE SYSTEM
- PCS POWER CONVERSION SYSTEM
- POI POINT OF INTERCONNECTION



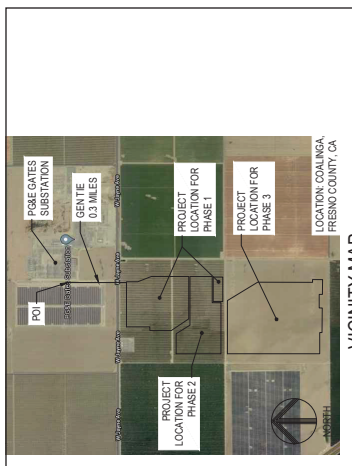
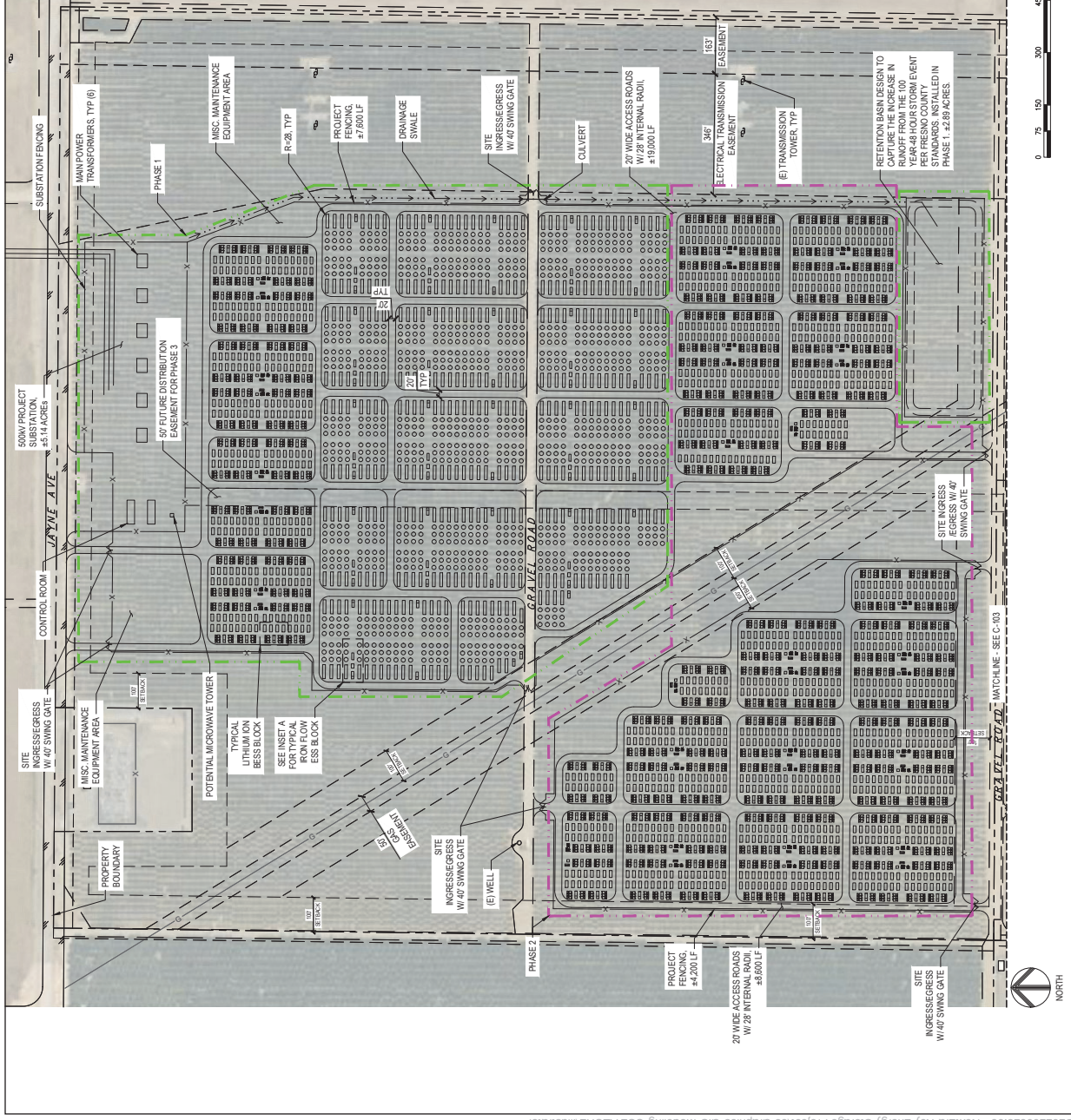
SOURCE: NextEra Energy, 2022

Key Energy Storage Project

**Figure 2-3b**  
Preliminary Site Plan—Lithium Ion Option







| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
| 2     | 700 MW                   | 232  | LI-ION          | 43.4            |
| 3     | 2000 MW                  | 640  | LI-ION          | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 922  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
NOTE B: INCLUDES RETENTION BASINS ON C-103.

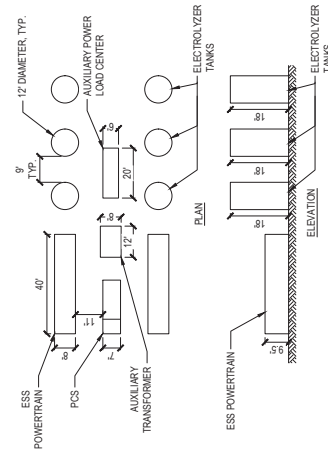
**SYSTEM SUMMARY**

**NOTES:**

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM CAPACITY OF THE POWER CONVERSION SYSTEMS. THIS IS SUBJECT TO OPERATIONAL CHANGES IN OPERATIONAL STRATEGIES.

**ABBREVIATIONS:**

- BESS: BATTERY ENERGY STORAGE SYSTEM
- BESS: BATTERY STORAGE SYSTEM
- PCS: POWER CONVERSION SYSTEM
- POI: POINT OF INTERCONNECTION



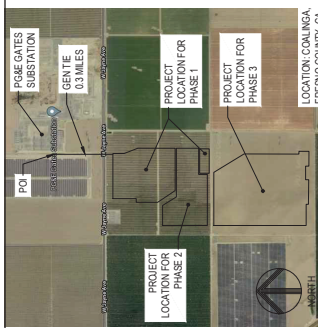
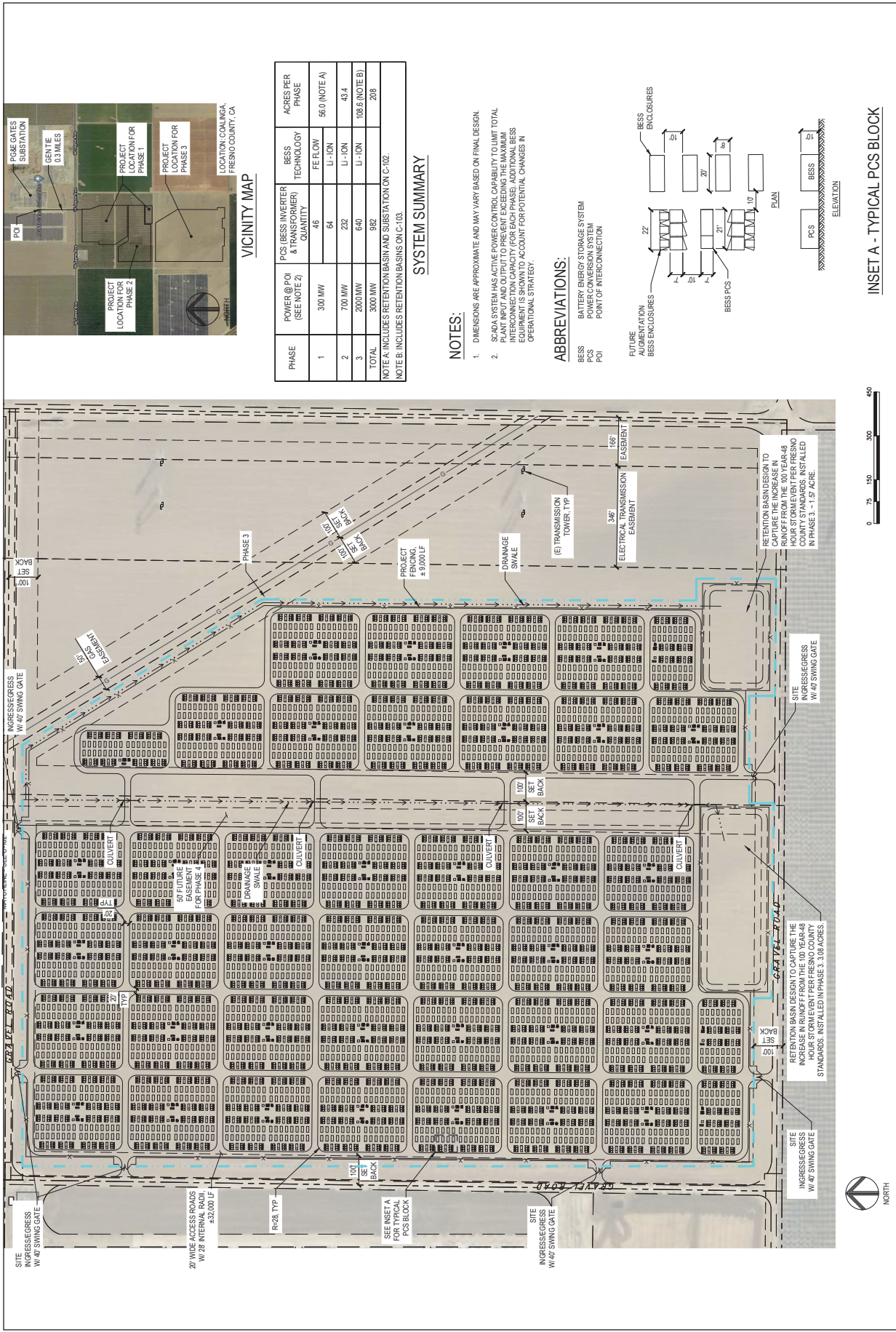
INSET A - TYPICAL IRON FLOW ESS BLOCK

SOURCE: NextEra Energy, 2022

Key Energy Storage Project

Figure 2-4a  
Preliminary Site Plan—Lithium Ion and Iron Flow Option





| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
| 2     | 700 MW                   | 232  | LI-ION          | 45.4            |
| 3     | 2000 MW                  | 640  | LI-ION          | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 922  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
NOTE B: INCLUDES RETENTION BASIN ON C-103.

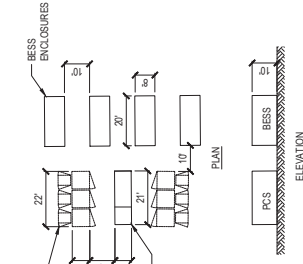
**SYSTEM SUMMARY**

**NOTES:**

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SJWA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL POWER DEMAND TO 2000 MW AT ANY GIVEN TIME. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

**ABBREVIATIONS:**

- BESS BATTERY ENERGY STORAGE SYSTEM
- PCS POWER CONVERSION SYSTEM
- POI POINT OF INTERCONNECTION



SOURCE: NextEra Energy, 2022

Key Energy Storage Project

**Figure 2-4b**  
Preliminary Site Plan—Lithium Ion and Iron Flow Option



to take a total of 68 months. The O&M periods for Phase 1 and Phase 2 are projected to begin in 2025 and 2026, respectively. It is assumed that all phases would be in operation by 2032. Decommissioning and site restoration for each phase would occur over a 12-month period. Phases 1, 2, and 3 would be constructed on APN 085-040-58; Phase 4 would be constructed on APNs 085-040-37 and 085-040-36. See Figure 2-2, *Project Site*.

The Project would provide increasing storage capacity and power at the point of interconnection as Project phases become operational, with a capacity of up to 3 GW at full build-out. Of the proposed 260-acre site, it is anticipated that 208 acres would be occupied by the Project's permanent footprint and the remaining 52 acres would be used for construction and to provide additional flexibility. **Table 2-1, *Project Capacity—Lithium-Ion Battery Option***, and **Table 2-2, *Project Capacity—Lithium-Ion and Iron-Flow Storage Option***, identify the components of each phase, including the number of MW of power at the point of interconnection upon completion of each phase; the number of power conversion systems required per phase; and the number of acres of the Project site to be developed during each phase.

Because it has not been determined whether lithium-ion and/or iron-flow storage technology would be used, the size and capacity of the containers may change. The number of inverters, transformers, and containers, as well as the megawatt capacity, have been estimated based on currently available technology.

**TABLE 2-1**  
**PROJECT CAPACITY—LITHIUM-ION BATTERY OPTION**

| Phase        | Maximum Power at Point of Interconnection | Power Conversion System Quantity | Temporary Footprint (Acres) | Permanent Footprint (Acres) | Location                          |
|--------------|---|----------------------------------|-----------------------------|-----------------------------|-----------------------------------|
| 1            | 300 MW                                    | 96                               | 6.9                         | 27.6 <sup>a</sup>           | APN 085-040-58                    |
| 2            | 500 MW                                    | 160                              | 5.5                         | 22.2                        | APN 085-040-58                    |
| 3            | 1,000 MW                                  | 320                              | 15.2                        | 60.8                        | APN 085-040-58                    |
| 4            | 1,200 MW                                  | 384                              | 24.4                        | 97.4 <sup>b</sup>           | APN 085-040-37 and APN 085-040-36 |
| <b>Total</b> | <b>3,000 MW (3 GW)</b>                    | <b>960</b>                       | <b>52</b>                   | <b>208</b>                  |                                   |

NOTES:

APN = Assessor's Parcel Number; GW = gigawatts; MW = megawatts

a Includes an approximately 3-acre retention basin and 6-acre substation.

b Includes approximately 2- and 1-acre retention basins.

SOURCE: Data provided by Key Energy Storage, LLC, in 2023

**TABLE 2-2  
PROJECT CAPACITY—LITHIUM-ION AND IRON-FLOW STORAGE OPTION**

| Phase        | Maximum Power at Point of Interconnection | Battery Energy Storage System Technology | Power Conversion System Quantity | Temporary Footprint (Acres) | Permanent Footprint (Acres) | Location                          |
|--------------|---|--|----------------------------------|-----------------------------|-----------------------------|-----------------------------------|
| 1            | 300 MW                                    | FE FLOW                                  | 46                               | 14                          | 56.0 <sup>a</sup>           | APN 085-040-58                    |
|              |   | Li-ION                                   | 64                               |                             |                             |                                   |
| 2            | 700 MW                                    | Li-ION                                   | 323                              | 10.8                        | 43.4                        | APN 085-040-58                    |
| 3            | 2,000 MW                                  | Li-ION                                   | 640                              | 27.2                        | 108.6 <sup>b</sup>          | APN 085-040-37 and APN 085-040-36 |
| <b>Total</b> | <b>3,000 MW (3 GW)</b>                    |  | <b>982</b>                       | <b>52</b>                   | <b>208</b>                  |                                   |

## NOTES:

APN = Assessor's Parcel Number; FE FLOW = iron-flow; GW = gigawatts; Li-ION = lithium-ion; MW = megawatts

a Includes an approximately 3-acre retention basin and 6-acre substation.

b Includes 1.57- and 3.08-acre retention basins.

SOURCE: Data provided by Key Energy Storage, LLC, in 2023

## 2.5.2 Energy Storage System

### 2.5.2.1 Battery Technologies

The Project would use a lithium-ion battery or lithium-ion and iron-flow storage technology. In lithium-ion batteries, lithium ions move from the negative electrode through an electrolyte to the positive electrode during discharge, and back when charging. Lithium-ion batteries use a lithium compound as the material at the positive electrode and typically use graphite at the negative electrode. A lithium-ion battery storage system would be composed of battery cells assembled in a series of modules. Sealed battery modules would be installed in self-supporting racks electrically connected either in series or parallel to each other. The individual battery racks would be connected in series or a parallel configuration to deliver the battery storage system energy and power rating.

A *flow battery* is a rechargeable fuel cell in which an electrolyte containing one or more dissolved electroactive elements flows through an electrochemical cell that reversibly converts chemical energy directly to electricity. More specifically, an iron-flow battery storage system would use containerized power conversion units combined with large volume storage tanks containing an electrolyte solution used to store and later discharge electrical energy. The electrolyte solution would consist primarily of water and include additives such as dissolved iron and salt. Electrolyzer tanks would be installed and housed in enclosure units.

### 2.5.2.2 Enclosure Units and Controllers

The energy storage system enclosures would be made of steel or aluminum and would house the batteries, the storage system controllers (i.e., inverters and transformers), and the HVAC and fire protection systems. If the iron-flow option is selected, then electrolyzer tanks also would be

installed and housed in enclosures. Although a final enclosure design decision would not be made until after Project approval, the preliminary site plans indicate that enclosures would be approximately 20 feet long, 8 feet wide, and 10 feet high and would resemble metal shipping containers. As shown in Figure 2-3 and Figure 2-4, the dimensions of energy storage system enclosures would remain the same for both the lithium-ion and iron flow and lithium-ion battery options.

Power conversion system (PCS) enclosures would be approximately 22 feet long, 7 feet wide, and 10 feet high. Each PCS enclosure would include an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, a transformer, and a connection cabling system. Energy storage system and PCS enclosures would be separated by 10-foot-wide aggregate base access roads (Appendix M2, *Visual Resources Assessment*).

The iron flow and lithium-ion battery option would include energy storage system powertrain enclosures and would be approximately 40 feet long, 8 feet wide, and 9.5 feet high. Electrolyzer tanks, approximately 12 feet in diameter and 18 feet high, would also be constructed under this battery option. Additional on-site support facilities for the iron flow and lithium-ion battery option include auxiliary transformers and auxiliary power load centers. Auxiliary transformers would be approximately 12 feet long, 8 feet wide, and 9 feet high. The auxiliary power load centers would be approximately 20 feet long, 6 feet wide, and 7 feet high (Appendix M2).

Batteries operate with DC electricity that must be converted to AC for compatibility with the existing electric grid. The enclosures would house bi-directional inverters to convert between AC and DC would be located outside the structures, along with transformers that would step up the voltage. Controllers ensure that the energy storage system effectively responds to grid emergency conditions and provide a secondary safety system designed to safely shut down the facility.

### 2.5.3 Project Substation

The Project would construct an approximately 6-acre open-air substation in the northern portion of the Project site along West Jayne Avenue. The substation would be the termination point of the 34.5 kV AC electricity system. Power to and from the energy storage system would pass through interconnection transformer to convert it between 34.5 kV (site voltage) to 500 kV (transmission voltage). Substation components would be approximately 25 feet tall. The gen-tie substation would be approximately 75 feet tall. Existing PG&E distribution lines in the area could provide auxiliary power to the Project site (Key Energy Storage, LLC 2021c).

### 2.5.4 Ancillary Facilities

#### 2.5.4.1 Operation and Maintenance Building

A 2,500-square-foot O&M building approximately 14 feet tall would be constructed within the footprint of the Project site. The precise location of the O&M building within this footprint would be determined at a later stage of design. Half of the building would be used as warehouse space

for spare-parts inventory, and the remaining half would be used for office space, a conference room, a communication room, a kitchen, and restrooms.

#### **2.5.4.2 Site Access, Signage, and Parking**

The Project site would be accessible, including to emergency vehicles, from West Jayne Avenue and the preexisting agricultural access roads that border and bisect the Project site. Drive-through swing gates would be constructed within the Project site at several locations to provide access. Site ingress/egress gates would be approximately 40 feet wide and 6 feet tall with an additional foot of three-strand barbed wire on the top. Site access points would comply with requirements set forth by the California Department of Forestry and Fire Protection or the Fresno County Fire Protection District. On-site parking would be provided to meet the Fresno County Municipal Code parking requirements (Key Energy Storage, LLC 2021b). Gravel access roads approximately 20 feet in width would be constructed around the perimeter of the Project site and 10-foot-wide aggregate base access roads would be constructed between blocks of enclosures (see Appendix M2). The surface of the roads would be at-grade to allow water to sheet flow across the site as it currently does.

A small sign reading “Key Energy Storage” would be installed at the main entrance off West Jayne Avenue. Additional signage would include information about emergency services and high-voltage safety indicators located on the perimeter fence near the main entrance and at the access gates (Key Energy Storage, LLC 2021b).

#### **2.5.4.3 Buffers and Fencing**

The Project site would be surrounded by a 7-foot-tall chain-link security fence with an additional foot of three-strand barbed wire extension at the top. In addition, the on-site substation would be surrounded by an approximately 8-foot-tall perimeter security fence with an additional foot of three-strand barbed wire extension at the top. The perimeter fences would restrict on-site access to authorized personnel only (Key Energy Storage, LLC 2021b).

Energy storage system enclosures located on Key 1 (APN 085-040-58) would be accessible by approximately five 40-foot-wide ingress/egress swing gates and one 50-foot-wide ingress/egress swing gate. Energy storage and PCS facilities located on Key 2 (APN 085-040-37) would be accessible from approximately three 40-foot-wide ingress/egress swing gates. One gate would be located at the northeast corner of the structure, a second gate would be located at the northwest corner, and a third gate would be located at the southwestern corner of the structure.

The Project would comply with the Fresno County Solar Facility Guidelines (Fresno County 2017) and would retain a 50-foot buffer between Project facilities (excluding fencing) and surrounding properties. Preliminary site plans indicate that structural improvement and equipment would be kept within 50 feet of the site boundary.

#### 2.5.4.4 Lighting

Security lighting, less than 14 feet tall, would be installed at the Project substation and O&M building. Lighting would be activated through a motion sensor or manual switch and would be on only when personnel are in the area. Safety and emergency signage would be visible when lighting is on. Lighting would be installed only in areas necessary for operations, security, and safety. All lighting would be shielded downward to minimize its impact on surrounding properties and nighttime light pollution. Electrical power for the access gate and lighting would be provided by PG&E (Key Energy Storage, LLC 2021b).

#### 2.5.4.5 Stormwater Facilities

During construction of Phase 1, stormwater facilities including a drainage swale would be constructed along the eastern boundary of the Project site. Phase 1 also would include the construction of a retention basin on the southeast corner of APN 085-040-58. During Phase 4, a retention basin would be constructed on southeast corner of APN 085-040-37. These stormwater facilities would be designed to meet Fresno County and State Water Resources Control Board requirements (Key Energy Storage, LLC 2021c).

#### 2.5.4.6 Uninterruptible Power Supply

The Project would include a small uninterruptible power supply to power to the Battery Management System during rare events when all or part of the facility is disconnected from the distribution system. The uninterruptible power supply would be sized to accommodate proposed control systems and minimal targeted HVAC system loads for equipment protection by providing a certain amount of run time based on temporary energy storage. The purpose of this would be to maintain battery safety and warranty temperature parameters when grid power is not available.

### 2.5.5 Water, Waste, and Hazards

#### 2.5.5.1 Water and Wastewater

##### **Water**

Water would most likely be delivered to the Project site by truck from an off-site source. However, water also could be provided via groundwater through a new or existing well. If groundwater would provide water to the Project, then it would be pumped into approximately 2,000- to 4,000-gallon water trucks and stored in approximately 12,000-gallon water storage tanks or towers up to 16 feet tall. These tanks would be on-site during construction only and would be removed following completion of construction. If the existing well located on the northernmost parcel of the Project site is not used to supply water for the Project, then it would be capped in accordance with County requirements. See **Appendix L**, *Water Supply Assessment*, for additional details.

### **Construction**

During construction, water would be used for dust suppression and earthwork. Annual water use during construction is anticipated to be 153 acre-feet per year for the lithium-ion battery option and a maximum of 171 acre-feet per year for the lithium-ion and iron-flow option. Total water use during construction is estimated to be 560 acre-feet for the lithium-ion battery option and 632 acre-feet for the lithium-ion and iron-flow option.

### **Operation and Maintenance**

Water use for O&M would be minimal (approximately 0.003 AFY). Potable water for the O&M building kitchen and restrooms would be delivered by a local water provider and stored on-site. Water also would be used for fire suppression, if needed.

### **Decommissioning**

During decommissioning, water would be used for dust suppression and earthwork. As discussed above for construction, water would be delivered to the Project site either by truck from an off-site source or via groundwater through a new or existing well.

### **Wastewater**

During construction and decommissioning, portable restroom facilities would be provided and serviced by licensed providers. During O&M, restrooms and a kitchen would be located within the O&M building. Wastewater from these facilities is expected to be disposed of using a septic tank or a wastewater removal service. The capacity of the septic tank would be determined based on site-specific soil conditions among other factors, as required by the Fresno County Local Agency Management Program (Fresno County 2018, 2019).

### **2.5.5.2 Solid Waste**

During construction, debris such as paper, cardboard, wood, plastics, and construction equipment packaging would be the main source of solid waste. Based on similar projects, it is anticipated that approximately 22 cubic yards of solid waste may be generated during construction. A certified waste hauler would be responsible for the disposal of solid waste and at minimum, 50 percent of waste would be recycled. Once operational, the Project would generate very little solid or liquid waste. Common trash or other waste products generated by on-site O&M staff would be removed by a contracted garbage service provider. Any solid waste generated during routine maintenance would be taken off-site for proper disposal upon departure. During decommissioning, aboveground structures and belowground electrical conduit, foundations, and infrastructure would be removed. Most parts of the proposed system are recyclable, and components of the energy storage system and on-site substation would be recycled when the Project's operating life is over (Appendix B1).

### **2.5.5.3 Hazardous Waste and Hazardous Materials**

Construction would generate limited amounts of hazardous wastes, such as used lubricants, cleaning solvents, and other chemicals. Additional hazardous wastes that could be encountered or



released during construction include contaminated soils, incidental spill waste, and concrete washout. Wastes generated or encountered would be handled, contained, transported, and/or disposed of according to local, state, and federal regulations.

Within each energy storage container, the electrolyte that powers the storage capacity would be subdivided into dozens of modules and thousands of cells housed within layers of containment, including the metal container itself. Applicable building codes and design standards require that numerous controls and sensors be in place to shut down operation and to notify 24-hour staff if any unsafe conditions occur, including those that could lead to a spill. If a spill were to occur, the O&M staff would implement the Emergency Action Plan's dedicated spill procedures for minimizing contamination and exposure. See Section 2.5.9.7, *Emergency Action Plan*, for additional details.

During decommissioning and site restoration, tanks and vessels containing fuels, hydraulic fluids, and oils would be transferred directly to tanker trucks and the tanks and vessels would be rinsed and the rinse water would then also be transferred to tanker trucks. Items that could not be moved (such as lubricants, paints, and solvents) would be locked in a utility structure, and the Applicant would provide secondary containment to meet the requirements for hazardous waste storage. These hazardous materials would be properly stored until proper disposal or recycling is available. All personnel in charge of handling and disposing of hazardous materials would be trained on how to properly handle these materials. Any enclosure used to store hazardous materials would be monitored regularly to check for leaks or structural failures.

## 2.5.6 Energy Storage System Construction

### 2.5.6.1 Construction Activities

#### ***Site Preparation and Grading***

Site preparation would include the removal of existing crops and, if required, construction of retention basins for hydrologic control.

Although the Project site is fairly level, grading would be required throughout most of the site to provide a stable base for proposed structures, equipment, and roads. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. At locations where gentle poles would be installed, minor cuts may be required where the foundations would be installed. Minor earthwork also would occur to install access roads. Access roads would be covered with either gravel or an aggregate base.

A temporary staging area for storing equipment and materials would be constructed at the southwest corner of the Project site. Additional staging and laydown area locations would be determined by the construction contractors and would be within the Project site boundaries.

### **Energy Storage Enclosure and Substation Installation**

Before installation of enclosure modules, foundations would be constructed of either cast-in-place concrete or crushed aggregate base.

The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Construction equipment would be delivered to the site on low-bed trucks unless the equipment could be driven to the site (such as boom trucks).

The substation would include a pad-mounted step-up transformer. Installation of the transformer would be followed by the construction of the substation and grid interconnection, and the wiring of each module through combiner boxes. The medium-voltage stations would be constructed on either concrete foundations or driven piles.

#### **2.5.6.2 Construction Workforce and Schedule**

Peak construction would occur during the energy storage enclosure installation portion of each phase. During these times, the peak daily workforce would be up to approximately 150 workers, and maximum average daily worker trips would be 300 one-way trips. The maximum average daily vendor truck trips would be 80 one-way trips per day. On average, there would be fewer workers than this on-site, resulting in fewer average daily worker and vendor trips. Construction workers would work 8- to 10-hour days, Monday through Friday. While weekend and overtime construction is not anticipated, it may occasionally be needed to meet Project milestones. The Applicant is considering two energy storage options, each of which would modify the Project components. **Table 2-3** and **Table 2-4** show the construction schedule, workforce, and vehicle trip modifications associated with the lithium-ion battery option and the lithium-ion and iron-flow option (Key Energy Storage, LLC 2021b).

Construction would be phased as described in Section 2.5.1, *Project Phasing*. Construction phases are not expected to overlap with one another.

**Table 2-3**, *Construction Schedule, Workforce and Vehicle Trips—Lithium-Ion Battery Option*, lists the expected duration of each component of each construction phase for the lithium-ion battery option, as well as the associated workforce and anticipated one-way vehicle trips.

**Table 2-4**, *Construction Schedule, Workforce and Vehicle Trips—Lithium-Ion and Iron-Flow Option*, lists the expected duration of each component of each construction phase for the lithium-ion and iron-flow option, as well as the associated workforce and anticipated one-way vehicle trips.

**TABLE 2-3  
CONSTRUCTION SCHEDULE, WORKFORCE, AND VEHICLE TRIPS—  
LITHIUM-ION BATTERY OPTION**

| Construction Activity by Phase        | Duration (weeks) | Estimated Workforce | One-Way Vehicle Trips      |                            |                        |
|---------------------------------------|------------------|---------------------|----------------------------|----------------------------|------------------------|
|                                       |                  |                     | Average Daily Worker Trips | Average Daily Vendor Trips | Total Haul Truck Trips |
| <b>Phase 1</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 2                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Preparation           | 4                | 20                  | 40                         | 8                          | 0                      |
| Grading                               | 4                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Grading               | 2                | 20                  | 40                         | 8                          | 0                      |
| Energy Storage Enclosure Installation | 25               | 120                 | 240                        | 40                         | 0                      |
| Substation Installation               | 16               | 60                  | 120                        | 80                         | 0                      |
| Gen-tie Foundation and Tower Erection | 1                | 40                  | 80                         | 8                          | 0                      |
| Gen-Tie Stringing and Pulling         | 2                | 40                  | 80                         | 8                          | 0                      |
| <b>Phase 2</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 2                | 40                  | 80                         | 4                          | 0                      |
| Grading                               | 4                | 40                  | 80                         | 4                          | 0                      |
| Energy Storage Enclosure Installation | 66               | 120                 | 240                        | 40                         | 0                      |
| <b>Phases 3</b>                       |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 40                  | 80                         | 6                          | 0                      |
| Grading                               | 8                | 40                  | 80                         | 6                          | 0                      |
| Energy Storage Enclosure Installation | 76               | 150                 | 300                        | 80                         | 0                      |
| <b>Phases 4</b>                       |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 60                  | 120                        | 8                          | 0                      |
| Grading                               | 8                | 60                  | 120                        | 8                          | 0                      |
| Energy Storage Enclosure Installation | 76               | 150                 | 300                        | 80                         | 0                      |

SOURCE: Key Energy Storage, LLC 2021b

**TABLE 2-4  
CONSTRUCTION SCHEDULE, WORKFORCE, AND VEHICLE TRIPS—  
LITHIUM-ION AND IRON-FLOW OPTION**

| Construction Activity by Phase        | Duration (weeks) | Estimated Workforce | One-Way Vehicle Trips      |                            |                        |
|---------------------------------------|------------------|---------------------|----------------------------|----------------------------|------------------------|
|                                       |                  |                     | Average Daily Worker Trips | Average Daily Vendor Trips | Total Haul Truck Trips |
| <b>Phase 1</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Preparation           | 4                | 20                  | 40                         | 8                          | 0                      |
| Grading                               | 8                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Grading               | 2                | 20                  | 20                         | 4                          | 0                      |
| Energy Storage Enclosure Installation | 67               | 120                 | 240                        | 40                         | 0                      |
| Substation Installation               | 16               | 60                  | 120                        | 80                         | 0                      |
| Gen-tie Foundation and Tower Erection | 1                | 40                  | 80                         | 8                          | 0                      |
| Gen-Tie Stringing and Pulling         | 2                | 40                  | 80                         | 8                          | 0                      |
| <b>Phase 2</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 2                | 40                  | 80                         | 4                          | 0                      |
| Grading                               | 4                | 40                  | 60                         | 4                          | 0                      |
| Energy Storage Enclosure Installation | 74               | 120                 | 240                        | 40                         | 0                      |
| <b>Phases 3</b>                       |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 60                  | 120                        | 8                          | 0                      |
| Grading                               | 8                | 60                  | 120                        | 8                          | 0                      |
| Energy Storage Enclosure Installation | 92               | 150                 | 300                        | 80                         | 0                      |

SOURCE: Key Energy Storage, LLC 2021b

### 2.5.6.3 Construction Access, Deliveries, and Equipment

Project materials and supplies would be delivered by truck via I-5 to West Jayne Avenue. Truck loads would be less than 40 tons, with an average cargo load of approximately 25 tons. Most of the truck trips would be for delivering aggregate materials and the energy storage enclosures and related components. Aggregate materials are expected to be delivered in six-axle bottom dump trucks or transfer trucks. Construction equipment would be transferred to the site in low-bed transportation trucks and size would be dependent on the equipment being transferred. The step-up transformer is expected to be the heaviest piece of equipment delivered to the site, weighing up to 160,000 pounds. A more detailed equipment inventory is provided in **Appendix D, Air Quality, Greenhouse Gas Emissions, and Fuel Use**.

## 2.5.7 Energy Storage System Operation and Maintenance

Once constructed, the Project would be operated and monitored, 7 days a week, through the proposed SCADA system with the support of up to seven on-site staff members. Routine on-site maintenance would include augmentation of batteries, electrical repairs, the replacement of inverter modules and filters, and vegetation control. It is anticipated that one annual major maintenance inspection would occur. All maintenance would occur during daytime hours. The facility would not receive regular deliveries during the O&M period.

Operation of the Project's substation would require O&M personnel to visit the substation for switching and other operational activities. Maintenance trucks would visit the Project site for routine maintenance including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance.

Unscheduled (i.e., emergency) maintenance activities may be required from time to time. Such maintenance could require several workers in light utility trucks to visit the facility site as needed.

## 2.5.8 Energy Storage System Decommissioning and Site Reclamation

Before the site is decommissioned and restored, the Applicant would submit a final reclamation plan detailing site decommissioning and reclamation activities to Fresno County. An initial draft plan is included in **Appendix B1**, *Draft Reclamation Plan*.

### 2.5.8.1 Decommissioning Workforce and Schedule

Project decommissioning and site restoration would take 12 months per phase. Phased decommissioning is initially expected to occur in approximately 2055, 2056, 2059, and 2062. The workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction.

### 2.5.8.2 Project Decommissioning

At the end of the Project's life span, the steel, aluminum, and concrete components of the energy storage system and substation would be recycled. Batteries from the energy storage system may include lithium-ion, which degrades but can also be recycled or repurposed. Electrical conduit and other structures and materials that break off more than 4 feet underground would be decommissioned and abandoned in place. Metal and scrap equipment and parts that do not have free-flowing oil would be sent for salvage at local recycling facilities. It is anticipated that oils and batteries would be recyclable and would be disposed of at the proper facilities. See Section 2.5.5.3, *Hazardous Waste and Hazardous Materials*, for more information regarding the disposal and removal of hazardous materials during decommissioning.

### **2.5.8.3 Site Reclamation**

Before the end of the decommissioning process, the Project site would be reclaimed to a condition comparable to its current agricultural condition. A copy of the proposed reclamation plan is provided in Appendix B1. Roads and other areas that were compacted during construction, operations, and decommissioning would be tilled to restore the sub-grade material to match the depth and density of surrounding properties. Clean compactable sub-grade material would be used to fill low areas. Sub-grade depth would be established from other properties located within 50 miles of the Project site or from the city of Fresno. Once established, locally sourced topsoil would be used to match the depth and density of surrounding properties. Compost would then be spread over the applied topsoil and the entire Project site would be tilled to mix and loosen the compost and topsoil. An appropriate seed mixture would be broadcasted or drilled across the site, followed by the application of weed-free mulch. The mulch would act as a soil stabilizer and help retain moisture for the germination of seedlings.

## **2.5.9 Applicant-Proposed Measures and Design Features**

The Applicant proposes to take certain actions to reduce the potential significance of anticipated environmental impacts. These actions are elements of the Project and not mitigation measures for purposes of CEQA. If the Project is approved, then the County would monitor and enforce compliance with these plans or design features until the obligation is satisfied. Where the analysis of individual resources relies on them to reduce anticipated effects, the relevant section so notes. These Applicant-proposed measures and design features would not govern PG&E's construction or O&M of the interconnection infrastructure described in Section 2.5.10, because PG&E has not volunteered to implement them and the County does not have permitting or other enforcement authority over PG&E, which is regulated by CPUC.

### **2.5.9.1 Glare and Lighting**

To reduce potential impacts on aesthetics from nighttime lighting and daytime glare, the Applicant proposes to provide the minimal amount of lighting required for safety, and a security lighting system that would be motion-activated (rather than timed to remain on from dusk to dawn); and shielding or directing lighting downward to minimize off-site impacts, including on nighttime skies.

### **2.5.9.2 Fire Protection**

The Applicant would implement the following fire protection, prevention, and detection measures and design features. Fire protection systems for each phase of the Project would be designed in accordance with the 2022 California Fire Code (California Code of Regulations [Cal. Code Regs.] Title 24, Part 9) or the version of the Fire Code that is current at the time of construction.

The Project could install lithium-ion batteries and/or iron-flow storage technology. Enclosures for either technology would be unoccupied. Flow batteries are generally not flammable and do not require fire suppression systems. Flow battery tanks would be designed to have containment in the event of a failure.

To mitigate potential hazards, redundant separate methods of failure detection would be implemented. Remote alarms would be installed for operations personnel as well as emergency response teams including voltage, current, and temperature alarms from the battery management system. Other protective measures are proposed to include ventilation, overcurrent protection, battery controls to operate the batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. In addition, an emergency response plan would be implemented as described in Section 2.5.9.7, *Emergency Response Plan*.

The Project's proposed fire protection design would comply with Section 1206 Electrical Energy Storage Systems, which adopts the National Fire Protection Association (NFPA) Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). Depending on technology, Underwriters Laboratories (UL), an independent engineer's test method, would certify that the batteries to be used in this Project, if it is approved, are manufactured in accordance with UL-9540A, an industry-standard Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems. UL independently tests equipment for compliance with the latest fire safety code requirements. This test method was developed to minimize the risk of thermal runaway to address safety concerns about battery storage equipment raised by fire departments and building officials in the United States. Compliance with these standards and certification includes a Battery Management System design that detects high temperatures at the battery cell or battery module level and automatically shuts down the battery rack. Furthermore, installation of battery units would follow manufacturers' specifications for the spacing of batteries and clearance distances to further prevent a thermal runaway event. Each unit would also be equipped with thermal management systems. Power to the thermal management system would be provided through a connection to the on-site station service transformer with connection lines installed above and/or below ground and would be equipped with an uninterruptible power supply as described in Section 2.5.4.6.

### 2.5.9.3 Erosion and Sediment Control and Pollution Prevention

Project activities would comply with all applicable San Joaquin Valley Air Pollution Control District rules and regulations, including Rule 9510 (Indirect Source Review) and Regulation VIII (Fugitive Dust Rules). Dust control merits further attention on the Project site because Coccidioidomycosis, more commonly known as *Valley Fever*, is highly endemic<sup>5</sup> in Fresno County. Valley Fever is primarily a disease of the lungs caused by the spores of the *Coccidioides immitis* fungus. The spores naturally occur in soils in this region, can become airborne when the soil is disturbed, and can subsequently be inhaled into the lungs. The potential exists for both dust and cocci spores to be stirred up during work activities that disturb the soil, such as digging, grading, or other earth-moving operations or vehicle operation on dirt roads or during high winds, and thereby to expose construction workers and others to the potential of contracting Valley Fever. To reduce the potential for causing or exacerbating exposure to dust and the cocci spores, the Applicant proposes to do the following:

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<sup>5</sup> Labor Code Section 6709 defines *highly endemic* as meaning that the annual incidence rate of Valley Fever is greater than 20 cases per 100,000 persons per year.

- Minimize soil disturbance where feasible (e.g., by limiting trenching and excavations).
- Provide effective awareness training on Valley Fever to construction personnel and all other on-site personnel before the person begins work (and annually thereafter) that is reasonably anticipated to cause exposure to substantial dust disturbance, where “substantial dust disturbance” means visible airborne dust for a total duration of 1 hour or more on any day.
- Use water-based dust suppression or appropriate soil stabilizers on Project roads during construction and decommissioning activities as well as during any time (including the O&M phase) when more than 10 vehicles are using unpaved interior accessways.
- Provide enclosed air-conditioned cabs for vehicles that generate dust and ensure that workers keep windows and outside air vents closed.
- Stabilize all spoils piles by tarping or other methods.
- Suspend outdoor work during heavy winds.
- Keep break areas and eating areas clean and protected from sources of dust to limit potential contamination of drinks and food.
- When feasible, keep workers upwind of digging and other dust-producing activities.
- Use vacuums equipped with high efficiency particulate air (HEPA) filters, water, wet towels, or other wet methods to clean soiled equipment, tools, and surfaces and avoid the use of compressed air, dry sweeping, or other methods that create dust when cleaning.
- Provide personal protective respiratory equipment when exposure to dust cannot be avoided.

Other Project design features to minimize impacts on water quality include the following: No outdoor storage areas are proposed; no exterior wash-down areas are proposed; no on-site repair or maintenance bays or fueling areas are proposed; pest management would occur only as described in Section 2.5.9.6, *Pest Management*; and water quality controls would be maintained on an ongoing basis and periodic inspections would be conducted to ensure proper performance. Project construction would result in more than 1 acre of soil disturbance. As a result, the Applicant would prepare, file, and implement a storm water pollution prevention plan (SWPPP) in accordance with the State of California’s General Permit for Stormwater Discharges Associated with Construction Activities (2022-0057-DWQ). The SWPPP would include measures to limit erosion and off-site transport of pollutants from construction activities. The plan would designate best management practices that would be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport.

Further, the Project has been designed consistent with Low Impact Development standards such as minimizing impermeable surfaces and using gravel surfacing where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disperse flows, and through bioretention swales that would further slow runoff and facilitate infiltration. Retention basins are proposed as described in Section 2.5.4.5, *Stormwater Facilities*. See Figure 2-3 and Figure 2-4.



### 2.5.9.4 Corrosion Protection

Signage, fencing, and other outdoor structures would be designed to last the life of the Project. Corrosion protection would be provided, if determined to be needed, by selecting thicker metal posts, using galvanized metal posts (with sacrificial anode coating), or installing a cathodic protection system (electrical corrosion controls).

### 2.5.9.5 Wildlife-Friendly Design Features

Hollow vertical tubes (e.g., chain-link fencing posts) on the Project site would be capped to prevent potential entrapment of birds or other small species. Further, the design of new overhead transmission and communications lines and structures would follow the most recent Avian Power Line Interaction Committee (APLIC) guidance to reduce the potential for avian injury and mortality from collisions and electrocution. At the time this Draft EIR was prepared, that guidance included *Suggested Practices for Avian Protection on Power Lines* (APLIC 2006) and *Reducing Avian Collisions with Power Lines* (APLIC 2012). The proposed use of motion-activated security lighting (rather than lighting that would remain on from dusk to dawn) would further reduce adverse impacts to nocturnal species, potentially including foraging, sheltering, mating and reproducing, communicating, and migrating behaviors.

### 2.5.9.6 Pest Management

The Applicant has prepared a draft integrated pest management (IPM) plan that includes pest-control measures to minimize the likelihood of pests (including weeds) within the Project site and to maximize the ability to reduce the current pest population, if present. A copy of the draft IPM plan is provided in **Appendix B2, Draft Integrated Pest Management Plan**, which explains that the plan “promotes the use of a range of preventative and non-chemical approaches to control pest populations and stave off infestation. If an infestation with unacceptable impacts occurs, thereby warranting additional treatment, IPM protocol favors the use of least-toxic pesticides. The targeted application of a toxic pesticide is allowed only after all other reasonable non-toxic options are exhausted.”

### 2.5.9.7 Emergency Action Plan

The Applicant recognizes that energy storage facilities, unless properly constructed, maintained, and operated, can create hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, and chemical burns. As such, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 25504(b); 19 Cal. Code Regs. 2731; 22 Cal. Code Regs. 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the fire department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders.

### 2.5.9.8 Compliance with Applicable Laws and Standards

The Applicant would comply with all applicable laws and standards, which may include but would not be limited to those governing the following:

- The use, storage, and disposal of hazardous materials, specifically:
  - U.S. Department of Transportation regulations found at Code of Federal Regulations (CFR) Title 49, Part 172 (49 CFR 172) and 49 CFR 173, which include requirements for hazardous material transport licensing, packaging and containment standards, labeling, and other protection measures to prevent hazardous-materials incidents during transport and to facilitate response in the event of an incident involving hazardous materials.
  - Requirements of the California Highway Patrol, California State Fire Marshal, U.S. Environmental Protection Agency, and California Department of Toxic Substances Control. These include the requirements to submit and maintain a Hazardous Materials Business Plan and be subject to periodic inspections by the Certified Unified Program Agency (here, Fresno County’s HazMat Compliance Program) for safe operations related to hazardous materials.
- Worker training and safe work practices, such as would occur under a comprehensive hazard communication program pursuant to 29 CFR 1910 to ensure that construction workers are knowledgeable in the identification and proper handling of hazardous materials to avoid spills or other upset conditions that could otherwise result in unsafe exposure.
- Air quality, such as the San Joaquin Valley Air Pollution Control District’s indirect source rule and fugitive dust regulation.
- Water quality.
- Energy storage systems more generally.

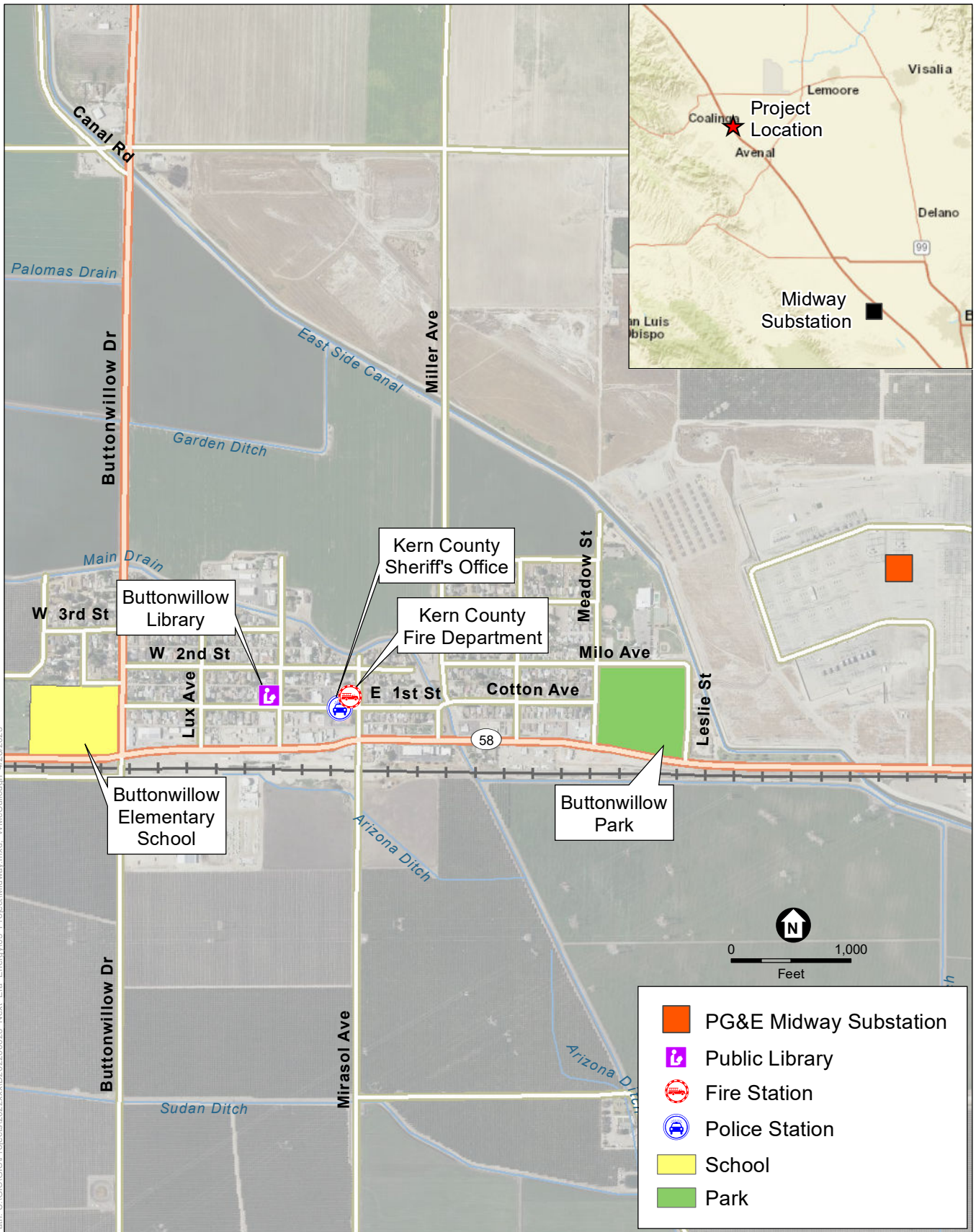
Compliance with these requirements would avoid or reduce potential adverse environmental impacts related to soil, air quality, surface water and groundwater quality, human health, fire-related risk, and other environmental considerations.

### 2.5.10 PG&E Interconnection Infrastructure

The Project would allow excess, intermittent renewable energy to be stored and later dispatched back into the electrical grid as firm, reliable generation. Power stored by the Project would be conveyed from and to the regional grid at PG&E’s existing Gates Substation. To accommodate the Project, PG&E would modify existing infrastructure within the Gates Substation property and the Midway Substation property. The location of the Gates Substation is shown on Figure 2-2, *Project Site*; the location of the Midway Substation is shown in **Figure 2-5, Midway Substation Location**.

#### 2.5.10.1 Gates Substation Modifications

As shown in Figure 2-2, *Site Location*, PG&E’s existing Gates Substation is bounded by agricultural fields to the north and east, a PG&E solar station to the west, and the Westlands Solar Switching Station to the south. To accommodate the Project, PG&E would enlarge the Gates



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Key Energy Storage Project

**Figure 2-5**  
Midway Substation

Substation 500 kV yard within the Gates Substation property boundaries by approximately 2.6 acres. Specifically, PG&E would remove the existing 1,120-foot-long precast security wall at the west side of the Gates Substation and replace it with a new 12-foot-high wall, approximately 100 feet west of the existing western wall. The new wall would be 12 feet above grade, so the overall height measured from the inside of the substation would be approximately 17.5 feet, owing to the 500 kV yard's below-grade elevation. The new wall would tie into the existing security walls located on the north and south sides of the 500 kV yard within the Gates Substation. The total length of the new wall would be 1,320 feet, including the 100-foot portions tying into the north and south walls. Existing security towers would be relocated and/or modified to accommodate the new wall. Grading of the new portion of the substation to a depth of approximately 5.5 feet below grade to match the existing 500 kV yard surface elevation would be required and would include a large quantity (up to 23,000 cubic yards) of cut. Removal of portions of the PG&E solar station located west of the substation may be required (PG&E 2023).

Within the newly graded area, PG&E would install approximately two 550 kV, 3,000-ampere, 63-kiloampere high-voltage circuit breakers. This would include installing equipment foundations and concrete trenches, equipment cabinets, bus structures, conduits, pull boxes, and concrete-encased conduit duct banks at road crossings outside of the substation as required (PG&E 2023).

### **2.5.10.2 Midway Substation Modifications**

Minor modifications to substation equipment at PG&E's Midway Substation would also be needed to support the Project. This substation is in Buttonwillow, Kern County. Necessary modifications at this location would include replacing an existing switch and three supporting structures and upgrading the existing 4-inch bus structure to 6 inches (PG&E 2023).

### **2.5.10.3 Transmission Line Work**

In addition to substation modification activities, PG&E would install approximately 2,500 feet of new 500 kV single-circuit transmission line, mostly on PG&E's substation property, between the Gates Substation bus connection and the pole on the Project site where the line changes ownership (i.e., the point of change of ownership or POCO pole). The line owned by PG&E would extend south from its substation approximately 120-feet, crossing Jayne Avenue and continuing into the adjacent Project site to the POCO pole. The right-of-way for the new transmission line would be 200 feet in width. The new transmission line would be supported by approximately four 175-foot-tall lattice steel towers with a minimum 30-foot conductor clearance to the ground. Each lattice steel tower would be supported by four concrete foundations, one for each leg, for a total of 16 foundations. The foundations would be approximately 7 feet in diameter, installed approximately 15 feet below ground. Once installation is complete, conductor stringing and terminations would be performed to ensure that the new lines are operating correctly. Lattice steel tower construction would require temporary work areas at each new structure and at locations required for conductor stringing and pulling operations. Each stringing and pulling operation would consist of a puller set-up positioned at one end and a tensioner set-up with wire reel stand truck positioned at the other end. The dimensions of the area needed for the wire stringing set-ups associated with wire installation are variable and depend upon terrain.

These activities would occur within the 200-foot-wide gen-tie right-of-way. At the point where the gen-tie lines cross West Jayne Avenue and the PG&E property, PG&E may need to obtain an overhead easement from the County. The new towers would resemble existing towers in and near the substation (PG&E 2023).

#### 2.5.10.4 Construction, Operation and Maintenance

Construction activities would be supported by up to four six-man crews working approximately 10-hour days, 6 days per week, for a total crew of up to 24 workers employed during construction. Access would typically be from paved or previously disturbed roads; some minor overland travel may be required. Equipment would include a helicopter, crane, drill rig, spool rig, backhoe, grader, concrete truck, typical rubber-wheeled construction vehicles, and miscellaneous hand tools. Construction is expected to start in 2024, or as soon as permitting, procurement and other preconstruction tasks are completed, with a targeted in-service date of July 2025 (PG&E 2023).

O&M of the expanded portion of the Gates Substation would be similar to O&M of the existing substations, with minimal new vehicle trips, equipment repairs, and replacements as necessary.

## 2.6 Permits and Approvals

Permits and approvals that could be required to construct, operate and maintain, and decommission the Project include the following:

- **Fresno County**—unclassified CUP; Williamson Act cancellation; lot line adjustment, lot merger, subdivision map, and/or tentative parcel map; and a structure height variance if needed before the proposed power line poles could exceed the 35-foot height limit in an AE zone. An encroachment permit also could be required for installation of the transmission line to cross West Jayne Avenue.
- **State Water Quality Control Board**— National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002).
- **CPUC**—authorizations pursuant to General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County and the construction of the gen-tie line.
- **San Joaquin Valley Unified Air Pollution Control District**—approval of Indirect Source Review for stationary and/or mobile sources and of a Dust Control Plan pursuant to Regulation VIII.

In addition, some construction deliveries to the Project site could be oversized or overweight. Vehicles providing deliveries would be subject to size, weight, and load restrictions pursuant to California Vehicle Code Division 15, including permits for oversize or overweight loads as required by Vehicle Code Section 35780 and California Code of Regulations Title 21 Section 1411.1 et seq.

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# CHAPTER 3

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## Environmental Analysis

### 3.1 Introduction to Environmental Analysis

#### 3.1.1 Overview

This chapter describes and analyzes the direct, indirect, and cumulative environmental impacts of the Key Energy Storage Project (Project) as they relate to each of the resource considerations identified in the environmental checklist provided in California Environmental Quality Act (CEQA) Guidelines Appendix G, which consist of the following: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Energy, Geology and Soils (including Paleontological Resources), Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire. Potential environmental impacts of alternatives to the Project are analyzed and compared to Project impacts in Chapter 4, *Alternatives*.

#### 3.1.2 Environmental Assessment Methodology

##### 3.1.2.1 Environmental Baseline

The analysis of each issue area begins with a description of the actual physical environmental conditions in the area where the Project and alternatives would be implemented. These conditions are referred to as the “baseline” relative to which Project-caused changes are analyzed to determine whether the change is significant for purposes of CEQA (CEQA Guidelines Sections 15125 and 15126.2). For this Project, baseline conditions are those that existed in July 2022 when the notice of preparation (NOP) was published, unless otherwise noted. The NOP is included as an exhibit to the scoping report provided in **Appendix A**. The *effects of the Project and alternatives* are defined as changes to the environmental setting that are attributable to Project components or activities. Consistent with CEQA, an environmental impact report (EIR) need not analyze the effects of the existing environment on a project (including its users or occupants) unless the project exacerbates those conditions.

##### 3.1.2.2 Impact Significance Criteria

CEQA lead agencies rely on impact significance criteria as benchmarks to determine whether changes to the existing environment caused by a project or an alternative would cause a significant adverse effect. A *significant effect on the environment* is “a substantial, or potentially

substantial, adverse change in any of the physical conditions within the area affected by the project” (CEQA Guidelines Section 15382).

To guide Fresno County (County), as the Lead Agency for this Project, in determining whether the Project or an alternative may cause a significant impact on the environment, the preparers of this EIR (identified in Chapter 6, *Report Preparation*) have considered the series of questions provided in the CEQA Guidelines Appendix G Environmental Checklist.

### 3.1.2.3 Impact Significance Conclusions

This EIR evaluates whether the Project and alternatives would cause a change in the environment. The conclusions reached are based on information in the record, including scientific and factual data as well as professional knowledge and judgment, and the thresholds identified in the resource analyses that follow. Consistent with CEQA and the CEQA Guidelines, significance conclusions are characterized as one of the following:

1. **No Impact:** The Project or an alternative would not cause any change in the environment relative to the applicable significance criterion. Under these circumstances, no mitigation measures would be required or may be imposed, and the Project or alternative could not cause or contribute to any cumulative effect.
2. **Less-than-Significant Impact:** The project or an alternative could cause an adverse change in the environment, but not one that would be substantial, relative to the applicable significance threshold. Under these circumstances, no mitigation measures would be required or may be imposed. The analysis considers whether the Project or alternative could cause or contribute to a potential cumulative effect.
3. **Less than Significant with Mitigation Incorporated:** The project or an alternative could cause an adverse change in the environment that would be substantial relative to the applicable significance threshold, but the implementation of one or more feasible mitigation measures would reduce the significance of the impact below the established threshold. The analysis considers whether the Project or alternative could cause or contribute to a potential cumulative effect.
4. **Significant and Unavoidable:** The project or an alternative could cause a substantial adverse change in the environment relative to the applicable significance threshold; however, either no feasible mitigation measures are available or, even with implementation of feasible mitigation measures, the significance of the impact would remain above the established threshold. The analysis considers whether the Project or alternative could cause or contribute to a potential cumulative effect.
5. **Cumulatively Considerable:** A Project-specific or alternative-specific contribution to a significant cumulative effect would be considerable when viewed in connection with the incremental impacts of past projects, the impacts of other current projects, and the impacts of reasonably foreseeable probable future projects (as defined in CEQA Guidelines Section 15130).

To avoid or reduce potential significant impacts where feasible, alternatives have been considered or mitigation measures have been recommended to address them.



### 3.1.2.4 Mitigation Measures

CEQA Guidelines Section 15370 defines *mitigation* to include:

- a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e) Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.

The County has developed mitigation measures to avoid or reduce potential significant adverse environmental effects of the Project and alternatives. The full text of the mitigation measures is provided in the individual resource sections throughout this chapter. The EIR evaluates the effectiveness of recommended mitigation measures by analyzing the impact that would remain after the implementation of the measure. In some cases, the implementation of more than one mitigation measure may be needed to reduce the significance of an impact below an established threshold.

### 3.1.3 Cumulative Effects Approach

As defined in CEQA Guidelines Section 15355, the term *cumulative impacts* refers to two or more individual effects, which, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from multiple projects is the change in the physical environment that results from the incremental impact of the proposed project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Sections 15355[b] and 15130[a][1]).

The analysis in this chapter evaluates potential cumulative impacts on a resource-by-resource basis by considering the incremental impacts of the Project together with the ongoing or anticipated effects of past, present, and reasonably foreseeable probable future projects that would cause environmental impacts that could combine with those caused by the proposal by Key Energy Storage, LLC (Applicant). Factors considered in determining whether a project is included in the cumulative scenario include whether it would cause impacts of the same nature as the Project in the same area at the same time.

#### 3.1.3.1 Cumulative Scenario

The term *cumulative scenario* is used in this EIR to refer to the projections and projects that are considered in the cumulative impact analysis. This EIR relies on a blend of two approaches to identify those projects: the “list-of-projects” approach and the “summary of projections” approach (CEQA Guidelines Section 15130[b]). A list of projects that would cause impacts that

could combine with those of the Project is provided in **Table 3.1-1**, *Cumulative Projects List*, and their locations are shown in **Figure 3.1-1**, *Cumulative Projects within 15 Miles of the Project Site*. Although the figure shows only those projects located within a 15-mile radius of the Project site, the geographic area of cumulative consideration has been established on a resource-by-resource basis throughout Chapter 3 as dictated by relevant physical boundaries (such as the extent of the groundwater basin) and is not limited by the area shown in Figure 3.1-1.

The summary of projections approach evaluates the impacts of a proposed project in the context of projections made in one or more local, regional, or statewide planning documents or environmental analysis that has been adopted or certified, such as the Fresno County General Plan. Such plans are prepared by local agencies to meet the requirements of state law and may contain the preparing agencies' comprehensive, long-term visions for physical development or resources conservation within the region.

### **3.1.3.2 Cumulative Impacts Analysis**

Incremental impacts resulting from initial site preparation and construction, operation and maintenance, and decommissioning and site reclamation could combine with the incremental impacts of other projects to cause or contribute to cumulative effects. Direct and indirect effects of the Project are analyzed on a resource-by-resource basis throughout Chapter 3; a comparative analysis of the cumulative impacts of the alternatives is provided in Chapter 4, *Alternatives*. Where the Project or an alternative would cause no impact on a given resource, it could not cause or contribute to any cumulative impact to such a resource. See, e.g., Section 3.17, *Recreation*.

For the remaining resource areas, this Draft EIR analyzes potential incremental impacts of the Project and alternatives combined with the incremental impacts of past, present, and reasonably foreseeable future projects, and determines whether the incremental impacts of the Project would be significant and, if so, whether the incremental contribution of the Project would be cumulatively considerable. As noted above, the geographic scope of the cumulative effects analysis for each resource area is tailored to the natural boundaries of the affected resource. Unless otherwise noted in the analysis, potential cumulative effects could occur during any phase of the Project, from the moment on-site activities begin to the conclusion of post-Project site restoration activities. Existing conditions within the cumulative impacts area reflect a combination of natural conditions and the ongoing effects of past actions in the affected area.

**TABLE 3.1-1  
CUMULATIVE PROJECTS LIST**

| <b>Project Name/Applicant</b>   | <b>Location</b>   | <b>Approximate Distance from Project Site</b>  | <b>Description</b>  | <b>Status</b>   |
|---|---|--|---|---|
| PG&E Midway Substation Upgrades   | At the existing PG&E Midway Substation  | Same location as the PG&E substation modifications necessitated by this Project          | PG&E to convert Midway Substation 230 kV to breaker-and-a-half bus arrangements and remedial action scheme (PG&E 2022a)   | Planned in-service second quarter 2025  |
| PG&E (Bank 11 Replacement—230 kV Bus E BAAH Conversion 500/230 kV—Substation) (Project 9 on Figure 3.1-1) | East of South Lake Avenue, west of South Trinity Avenue, and north of West Jayne Avenue within the existing PG&E Gates Substation property  | Same location as the PG&E substation modifications proposed at the PG&E Gates Substation | Replacement of bank and conversion of the existing 230 kV double bus section E inside existing PG&E Gates Substation  | Planned in-service 2023 (PG&E 2022b)  |
| PG&E Gates 500 kV Dynamic Reactive Support Project (Project 8 on Figure 3.1-1)                            | East of South Lake Avenue, west of South Trinity Avenue, and north of West Jayne Avenue within the existing PG&E Gates Substation property  | Same site as the PG&E Gates Substation modifications necessitated by this Project        | Existing PG&E Gates Substation 500 kV yard modifications for interconnection to Proposed LS Power Gates 500 kV Dynamic Reactive Support Project   | Environmental review complete (CPUC 2022); construction anticipated to begin in 2023 (PG&E 2023)                              |
| PG&E Interconnection Customer (Generation) (Project 6 on Figure 3.1-1)                                    | East of South Lake Avenue, west of South Trinity Avenue, and north of West Jayne Avenue within the existing PG&E Gates Substation property  | Adjacent to the PG&E Gates Substation  | Installation of a 230 kV gen-tie approximately 1,800 feet in length within the northeast corner of the substation to be hung on approximately two TSPs<br><br>Installation of 230 kV bay to section "F"; potential installation of 230 kV gen-tie line within substation property; full scope is undetermined | Anticipated October 2023 (CPUC 2022)  |
| Fifth Standard Solar Complex (Project 7 on Figure 3.1-1)  | South Lassen Avenue, north of West Jayne Avenue, east of South Lake Avenue, and west of West Gate Avenue, approximately 3.0 miles south of the nearest city limits of Huron, California | 2 miles northeast  | The Fifth Standard Solar Complex includes a 150 MW PV solar generation facility on 1,400 acres; and a 20 MW energy storage facility on 5 acres that, when referenced separate from the solar component, is called the Blackbriar Energy Storage project,  | Environmental review complete (Fresno County 2020a, 2020b); construction to have been completed in December 2022              |
| State Route 33 Pavement Rehabilitation (Project 5 on Figure 3.1-1)  | State Route 33 from Merced Avenue to the Los Gatos Creek South Channel Bridge between post miles 14.7 and 16.7 in the city of Coalinga in Fresno County                                 | 11 miles west  | Caltrans restoration of the pavement along State Route 33 from Merced Avenue to the Los Gatos Creek South Channel Bridge in the city of Coalinga in Fresno County (Caltrans 2022a)  | Environmental review complete (Caltrans 2022b) Construction to begin October 2024, anticipated to be completed September 2025 |
| 150 S. Hachman Street Subdivision (Project 4 on Figure 3.1-1)   | 150 S. Hachman Street at Polk, city of Coalinga   | 12 miles west  | 0.57-acre residential subdivision   | Environmental review complete (City of Coalinga 2020); construction status unknown  |
| City of Coalinga Trails Master Plan Segments 3, 4, and 9 (Project 3 on Figure 3.1-1)                      | Multiple sites in Coalinga  | 12 miles northwest   | Development of portions of Segments 3, 4, and 9 totaling approximately 4,600 linear feet (0.87 mile) of the City of Coalinga's planned 8.8-mile multi-use (vehicle-separated) loop-and-spur Class I bicycle/pedestrian trail system   | Environmental review complete (City of Coalinga 2021)   |

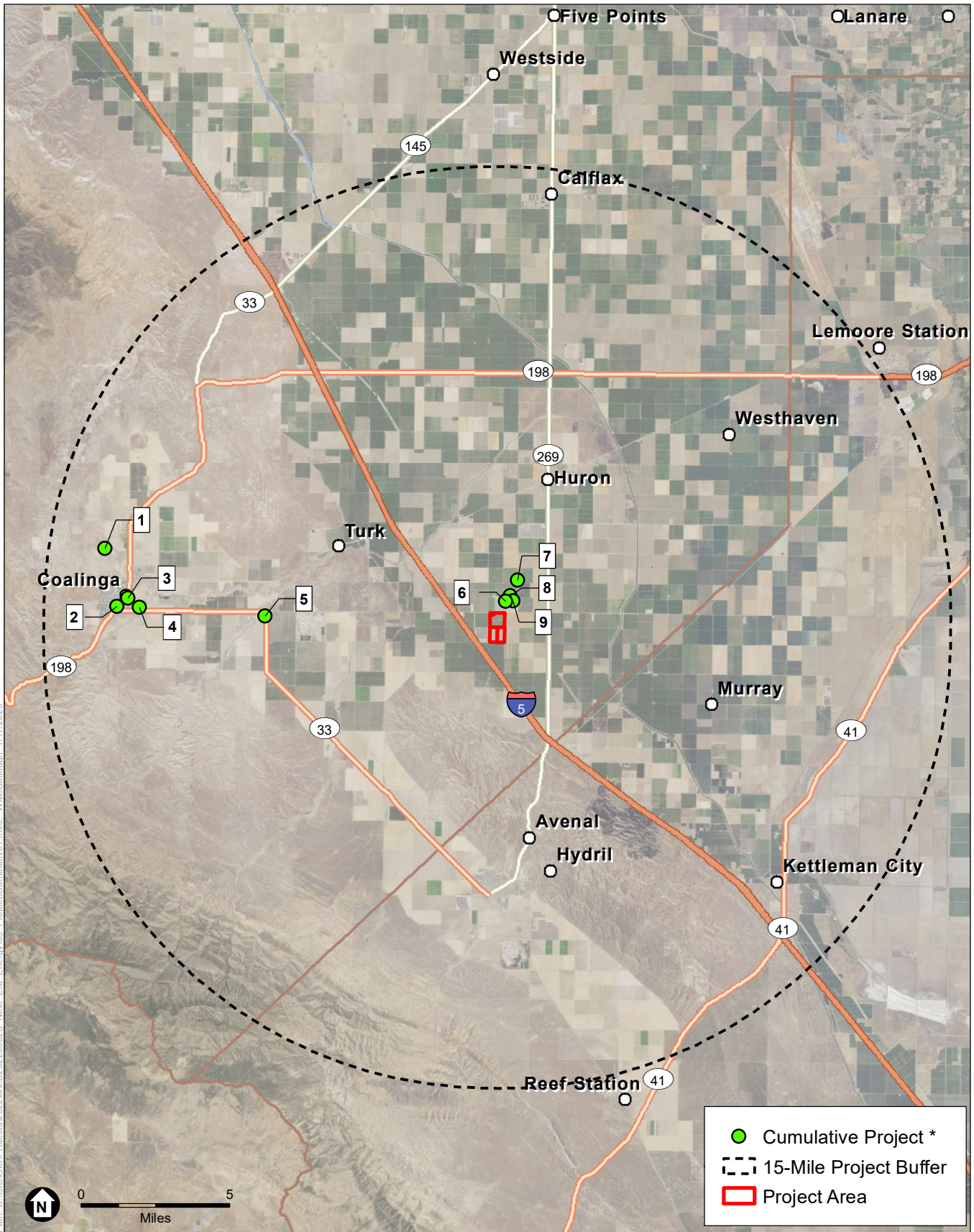
**TABLE 3.1-1 (CONTINUED)  
CUMULATIVE PROJECTS LIST**

| <b>Project Name/Applicant</b>   | <b>Location</b>  | <b>Approximate Distance from Project Site</b> | <b>Description</b>   | <b>Status</b>   |
|---|--|---|--|---|
| City of Coalinga Trails Master Plan Segments 1, 2, 13, and 14 (Project 2 on Figure 3.1-1) | Multiple sites in Coalinga   | 12 miles northwest                            | Development of portions of Segments 1, 2, 13, and 14, totaling approximately 10,520 linear feet (1.97 miles) of the City of Coalinga's multi-use trail system. | Environmental review complete (City of Coalinga 2022) |
| Brightsource Energy Solar to Steam Demonstration Project (Project 1 on Figure 3.1-1)      | S. Derreck at W. Gale, in Coalinga   | 14.5 miles west                               | 30-megawatt-thermal solar-to-steam enhanced oil recovery project   | Operational as of 2011                                |
| Kamm Avenue Pistachio   | On the south side of Kamm Avenue, approximately 1 mile west of State Route 33, and approximately 4 miles east of I-5 in unincorporated Fresno County (Fresno County 2021a) | 32 miles northwest                            | Pistachio processing facility with a variance request for building height in excess of 35 feet   | Environmental review in progress                      |
| RE Tranquillity #1-#8   | 7 miles southwest of the community of Tranquillity, south of Manning Avenue between San Benito Avenue and San Bernardino Avenue  | 35 miles southeast                            | 3,732-acre, 400 MW PV solar facility   | Project approved in 2014 and currently in operation   |
| RE Adams East, LLC  | East side of State Route 33 between South Avenue and West Manning Avenue   | 35 miles northwest                            | 322.4-acre, 19 MW PV solar facility  | Project began commercial operation in 2014            |
| Luna Valley Solar   | 11 miles east of I-5, approximately 9 miles northeast of Tranquillity and adjacent to and west of State Route 33 in unincorporated Fresno County                           | 36 miles northwest                            | 200 MW PV solar facility on approximately 1,250 acres  | Environmental review complete (Fresno County 2021b)   |
| Sonrisa Solar   | State Route 33 at Manning Avenue in unincorporated Fresno County   | 36 miles northwest                            | 200 MW PV solar facility with battery storage capacity of 100 megawatts on approximately 2,000 acres   | Environmental review in progress                      |
| Scarlet Solar   | 3.5 miles west-southwest of the community of Tranquillity and approximately 6.5 miles east of I-5 along State Route 33 at W South Avenue in unincorporated Fresno County   | 36 miles northwest                            | 400 MW PV solar facility with 400 MW energy storage system on 4,089 acres  | Environmental review complete (Fresno County 2021c)   |
| Westside Famers Almond Hulling  | Tranquillity   | 36 miles northwest                            | Allowance of an almond hulling/shelling operation at an existing, non-operational cotton ginning facility  | IS/MND approved                                       |

**TABLE 3.1-1 (CONTINUED)  
 CUMULATIVE PROJECTS LIST**

| <b>Project Name/Applicant</b>                   | <b>Location</b>   | <b>Approximate Distance from Project Site</b> | <b>Description</b>   | <b>Status</b>  |
|---|---|---|--|--|
| Heartland Hydrogen Project                      | State Route 33 and West American Avenue, second location at Bass Avenue in the city of Mendota                                  | 40 miles northwest                            | Development of an electrolytic hydrogen fuel generation facility using treated wastewater and on-site generation of solar PV energy; project would be capable of producing approximately 30,000 kg/day of renewable hydrogen for zero-emission transportation fuel | Environmental review in progress   |
| Little Bear Solar Project                       | West side of State Route 33 between West California Avenue and West Jensen Avenue   | 43 miles northwest                            | 1,288-acre, 180 MW PV solar facility   | Project began commercial operation in December 2020                                      |
| Citizen Solar B, E, & F                         | Westerly adjacent to North Star   | 43 miles northwest                            | Two independent 40-acre solar facilities, and a 240-acre independent solar facility; previously authorized by CUP 3327 (320-acre solar facility)   | Construction (electrical co-gen) permits issued in 2015; solar generating status unknown |
| North Star Solar Project/North Light Power, LLC | South side of Whitesbridge (alignment) between San Bernardino and Ohio avenues, 43 miles northwest/0.5 mile west of Mendota FCI | 43 miles northwest                            | 626-acre, 60 MW PV solar facility and gen-tie line to PG&E's Mendota Substation  | Project approved in 2012–2013 and is in operation  |

NOTES: BAAH = breaker and a half; Caltrans = California Department of Transportation; CUP = conditional use permit; FCI = Federal Correctional Institution; I-5 = Interstate 5; IS/MND = initial study/mitigated negative declaration; kg = kilograms; kV = kilovolts; MW = megawatts; PG&E = Pacific Gas and Electric Company; Project = Key Energy Storage Project; PV = photovoltaic



\* For full list of cumulative projects see Table 3.1-1

NextEra- Key Energy Storage Project

**Figure 3.1-1**  
Cumulative Projects within  
15 miles of Project Area

### 3.1.4 PG&E Infrastructure

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, Project interconnection would include installation up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the PG&E Gates Substation to the Project site) on lattice towers each up to 200 feet tall, and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

PG&E's interconnection facilities work would constitute a direct or indirect physical change resulting from the Project and are included in the Project being evaluated by the County in this Draft EIR. However, construction of the interconnection facilities is not being approved by the County. Because PG&E is not the applicant in this proceeding, PG&E would not be subject to the proposed mitigation measures; the Project applicant would be responsible for compliance with the mitigation measures that approved by the County in connection with this EIR. For the interconnection facilities, PG&E would be subject to the California Public Utility Commission's General Order 131-D and would be expected to coordinate with the Project applicant in complying with the required mitigation. Furthermore, construction of the interconnection facilities would be subject to all applicable regulatory requirements, such as those governing hazardous materials management and water quality protection, and PG&E's BMPs. PG&E would obtain any applicable ministerial permits from the County.

### 3.1.5 References

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## 3.2 Aesthetics

This section identifies and evaluates issues related to aesthetics, including scenic vistas, scenic resources, the visual character and quality of views of the site and its surroundings from publicly accessible vantage points, and light and glare and their impacts on daytime or nighttime views in the area. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate potential impacts, and reports the results of the impact assessment. The County did not receive comments regarding aesthetics during the public scoping period (**Appendix A**, *Scoping Report*).

This analysis is based in part on the Project-specific visual simulations prepared on the Applicant's behalf contained in the visual resources assessment prepared for the Project (**Appendix M**). The preparers of this Draft EIR independently reviewed these and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance (in combination with other materials included in the formal record) in preparing this Draft EIR.

For this analysis, *visual or aesthetic resources* are defined as both the natural and built features of the landscape that contribute to a public viewer's experience and appreciation of a given environment. Definitions of the following terms and concepts are provided to aid readers' understanding of the content in this section.

*Visual quality* is defined as the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns. The attributes of line, form, and color combine in various ways to create landscape characteristics whose variety, vividness, coherence, uniqueness, harmony, and pattern contribute to the overall visual quality of an area. For the purposes of this analysis, visual quality is defined according to three levels:

- *Indistinctive, or industrial*—Generally lacking in natural or cultural visual resource amenities typical of the region.
- *Representative*—Typical or characteristic of the region's natural and/or cultural visual amenities.
- *Distinctive*—Unique or exemplary of the region's natural or cultural scenic amenities.

*Viewer exposure* addresses the variables that affect viewing conditions from potentially sensitive areas. Viewer exposure considers the following factors:

- *Landscape visibility*—the ability to see the landscape.
- *Viewing distance*—the proximity of viewers to the project.
- *Viewing angle*—whether the project would be viewed from above (superior), from below (inferior), or from a level line of sight (normal).
- *Extent of visibility*—whether the line of sight is open and panoramic to the project area or restricted by terrain, vegetation, and/or structures.

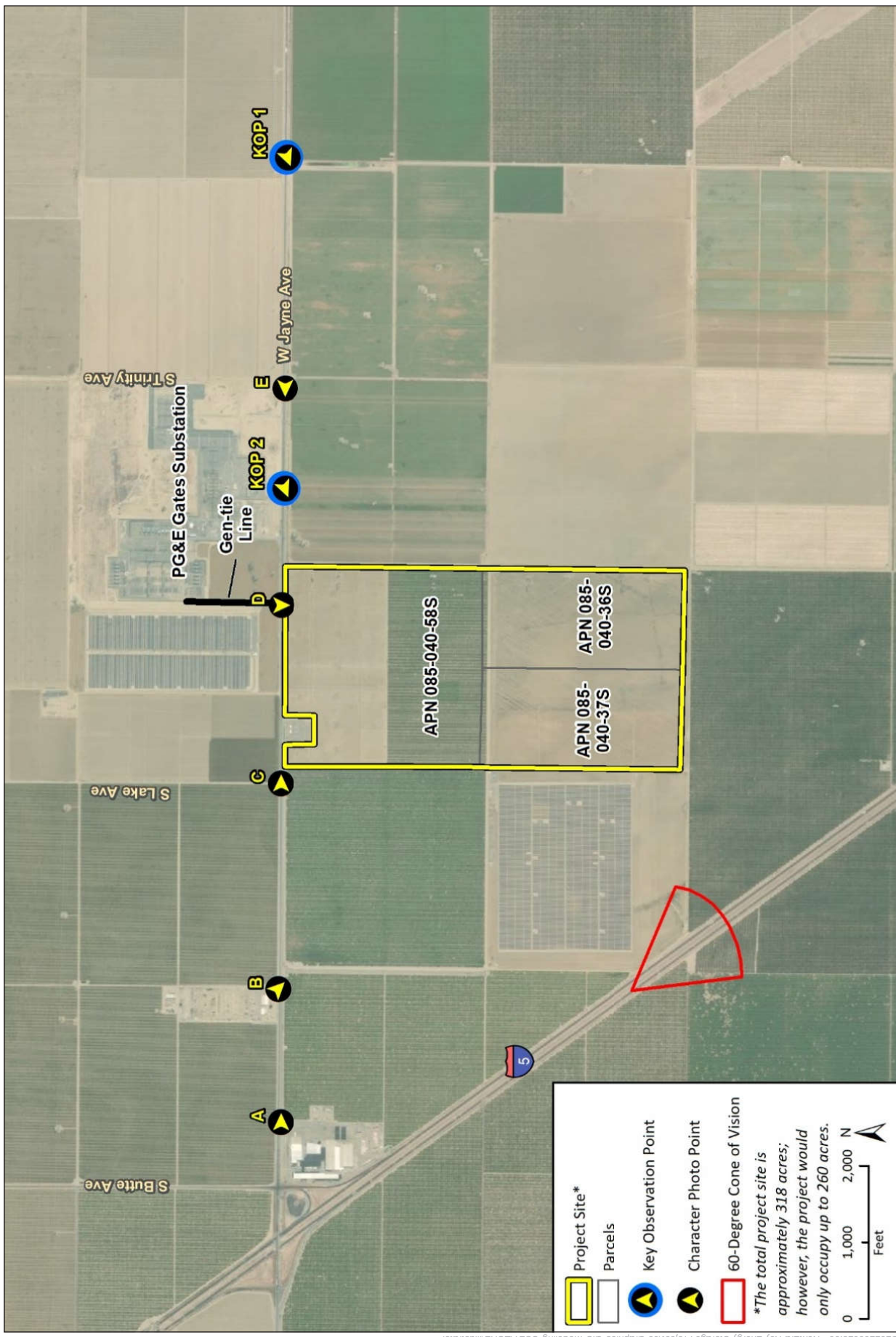
- *Duration of view*—the length of time within which a given feature would be visible.

*Viewer types and volumes* of use pertain to the types of use (e.g., public viewers including recreationalists and motorists) and amounts of use (e.g., number of recreational users or motorists) with which various land uses are associated. Generally, recreational users tend to be more concerned with scenery and landscape character, whereas people who commute to work through a landscape daily tend to have lower concern for visual, or scenic, quality.

*Visual sensitivity* is the overall measure of an existing landscape’s susceptibility to adverse visual changes. People in different visual settings, typically characterized by different land uses surrounding a project, have varying degrees of sensitivity to changes in visual conditions depending on the overall visual characteristics of the place. In areas of more distinctive visual quality, such as designated scenic highways, designated scenic roads, parks, and recreational and/or natural areas, visual sensitivity is characteristically more pronounced. In areas of more indistinctive or representative visual quality, sensitivity to change tends to be less pronounced, depending on the level of visual exposure. This analysis of visual sensitivity is based on the combined factors of visual quality, viewer types and volumes, and visual exposure to the Project. Visual sensitivity is reflected according to high, moderate, and low visual sensitivity ranges.

Definitions for the following terms are also provided to explain their use in describing and assessing the aesthetic setting and impacts for the Project.

- *Color* is the property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths) to which the eye is sensitive. It is the major visual property of surfaces.
- *Contrast* is the opposition or unlikeness of different forms, lines, colors, or textures in a landscape. The contrast can be measured by comparing the project features with the major features in the existing landscape.
- *Form* is the mass or shape of an object or objects which appear unified.
- A *Key Observation Point (KOP)* is a point on a travel route or at a use area or a potential use area, where the view of a proposed activity would be most revealing. For the purposes of the following analysis, KOPs describe locations from which setting photographs were taken. KOPs for this Project are shown in **Figure 3.2-1, Map of Key Observation Points**.
- *Landscape character* is the arrangement of a particular landscape as formed by the variety and intensity of the landscape features and the four basic elements of form, line, color, and texture. These factors give the area a distinctive quality that distinguishes it from its immediate surroundings.
- *Line* is the path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture. Within landscapes, lines may be found as ridges, skylines, structures, changes in vegetative types, or individual trees and branches.
- A *scenic vista* is an area that is designated, signed, and accessible to the public for the purposes of viewing and sightseeing.



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**Figure 3.2-1**  
KOP and Photo Point Location Map



- A *scenic highway* is any stretch of public roadway that is designated as a scenic corridor by a federal, state, or local agency.
- *Sensitive receptors or sensitive viewpoints* include individuals or groups of individuals that have views of a site afforded by a scenic vista, scenic highway, residence, or public recreation area.
- *Texture* is the visual manifestations of the interplay of light and shadow created by the variations in the surface of an object or landscape.
- The *viewshed* for a project is the surrounding geographic area from which a project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations.

## 3.2.1 Setting

### 3.2.1.1 Study Area

The Project site is located in Fresno County within the central San Joaquin Valley, approximately 15 miles southeast of the base of the Diablo Range, part of the more expansive California Coast Ranges. The San Joaquin Valley extends from the Sacramento–San Joaquin Delta in the north to the Tehachapi Mountains in the south, framed by the Coast Ranges to the west and the Sierra Nevada to the east. The San Joaquin Valley is dominated by agricultural land uses, with views of industrial-scale farms and orchards interspersed with small communities.

The closest town to the Project is Huron, roughly 4 miles to the north; the city of Coalinga is 12 miles west of the Project site and Kettleman City is 13 miles south. Interstate 5 (I-5) bisects the valley (north to south); the southerly Project parcel boundary is located approximately 1,700 feet northeast of I-5. The valley is a low-elevation flatland basin that has been altered to support agriculture. Rivers in the region, such as the San Joaquin River and the Kings River, have been greatly altered over time and now support the larger regional water conveyance system created for agricultural use. The topography is relatively flat, but elevations gradually rise toward the east, south, and west. The topographic characteristics of the Project site and surrounding region allow for open, expansive views of hills and mountains around the valley.

### 3.2.1.2 Environmental Setting

Environmental conditions discussed in this section include the regional and local visual environment; sources of light and glare within the Project vicinity; sensitive visual receptors; the visual quality of the study area; and KOPs selected to illustrate existing environmental conditions.

As shown in Figure 3.2-1, existing and surrounding land use consists of agricultural land, solar farms, and the PG&E Gates Substation northeast of the Project site. The northern parcel (Assessor's Parcel Number [APN] 085-040-58S) is flanked by orchards to the west and row crops of fallow fields to the east. The existing Fifth Standard solar development is directly north of West Jayne Avenue. An existing gen-tie line (owned by PG&E) runs from south to north along the western boundary of the northern parcel; two existing high-voltage overhead transmission

lines extend along the eastern boundary of the Project site. Shielded security lighting is present at the PG&E Gates Substation and the Fifth Standard solar development under existing conditions. The Project's southern adjacent parcels (APNs 085-040-37S and 085-040-36S) are bounded by orchards to the south, a solar array to the west, and fallow agricultural fields to the east.

### ***Regional Visual Character***

The visual character of the Project site and surroundings represents a combination of agricultural and industrial elements. The generally rural landscape is dominated by open agricultural views interspersed with more industrial and developed elements, notably including existing industrial-scale solar facilities and power lines, machinery, buildings, and structures associated with residential and agricultural operations. The mix of rural agricultural views along with views of existing solar facilities, substation infrastructure, and electrical transmission and distribution lines in the Project vicinity are representative visible elements in the region.

### ***Viewer Types and Exposures***

Public viewer groups evaluated for this analysis include motorists along West Jayne Avenue and I-5. For each viewer group analyzed, viewer exposure conditions were evaluated based on traffic information along local roadways, as described in Section 3.17, *Transportation*. The Project would not be visible from other major or scenic roadways, or from parks or recreational areas.

Variables considered include the angle of view, the extent to which views are open or screened, the duration of view, and viewing distance. Viewing angle and extent of visibility consider the relative location of the Project site to the viewer and whether visibility would be open or panoramic, or would be limited by intervening elements such as vegetation, structures, or terrain. Duration of view pertains to the amount of time a subject would typically be seen from an observational point. In general, the duration of view is shorter where a subject would be seen briefly or intermittently (such as from major travel routes and recreation destination roads) and greater in instances where the subject would be seen regularly and repeatedly (such as from public use areas). Viewing distances are described according to whether the subject would be viewed within a foreground zone (within 0.5 mile), middle-ground zone (0.5 mile to 2 miles), or background zone (beyond 2 miles).

### ***Scenic Vistas***

Based on review of the Fresno County General Plan, there are no officially designated scenic vistas in the study area or Project vicinity. Additionally, Google Earth was used to search for any natural, elevated scenic vistas near the Project site. There are no parks or other (undesignated) scenic vistas within 3 miles of the Project site. Because of the flat topography of the region and Project vicinity, there are no unique, elevated areas within the vicinity of the Project site where high-quality views would be available.

### ***Scenic Roadways***

The major north-south roadway in the region is I-5, a four-lane divided interstate highway located approximately 1,700 feet southwest of the Project site at the closest point. I-5 is designated in the Fresno County General Plan as a County-designated scenic highway (Fresno County 2000). Other

than I-5, there are no scenic highways in the study area (Caltrans 2022a, 2022b; Fresno County 2000). There are no designated state-designated or eligible scenic highways in the region. The closest designated state scenic highway is a segment of State Route (SR) 180 east of Fresno, more than 50 miles east of the site.

### ***Representative Photographs***

Representative photographs and views of the Project vicinity from the KOPs are provided as **Figures 3.2-2** and **3.2-3**. Figure 3.2-2 shows two views (Photos A and B looking east and southeast, respectively) along West Jayne Avenue. Photograph A is representative of public views available to motorists traveling east along West Jayne Avenue, east of I-5. Within the foreground view are a fallow field, a drainage ditch, and overhead power lines supported by wooden poles along the northern boundary of the Project site. An intervening orchard obscures potential views of the Project site. Distant views of existing high-voltage electric transmission infrastructure are available in the background. Photograph B is closer to the Project site and shows the existing orchard in the foreground with agricultural fencing and similar electric infrastructure in the background.

Figure 3.2-3 shows three views in closer proximity to the northern border of the Project site. Photograph C is a view looking east on West Jayne Avenue. Electric transmission infrastructure is visible in the middle and background views, with a small substation visible above the orchard's tree line to the right in the view. Photograph D is a view looking south directly across the open extent of the Project site, with existing transmission and distribution lines visible on the eastern (left) side of the viewshed and a distant hill on the horizon. Photograph E is representative of views for westbound motorists traveling along West Jayne Avenue. Agricultural crops, irrigation pipes, and a drainage canal are visible on the relatively open south side of the road; electrical infrastructure dominates the middle-ground view with distant hills along the horizon barely visible in the background. As depicted in the representative photos, a combination of agricultural and industrial elements is visible in the site vicinity under existing conditions.

### **3.2.1.3 Regulatory Setting**

#### ***Federal***

No federal regulations governing aesthetic or scenic resources apply to the Project.

#### ***State***

##### **California Department of Transportation Scenic Highway Program**

The California Department of Transportation manages the State Scenic Highway Program and provides guidance to local governments, community organizations, and citizens pursuing official designation of a State Scenic Highway. The Scenic Highway Program was introduced by the California Legislature in 1963 and established through Senate Bill 1467, which added Sections 260–263 to the Streets and Highways Code. These statutes establish the State of California's responsibility to protect and enhance California's natural scenic beauty by identifying those portions of the State Highway System that, together with adjacent scenic corridors, require



Photograph A: View looking east on W. Jayne Avenue



Photograph B: View looking southeast on W. Jayne Avenue

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SOURCE: NextEra, 2022

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**Figure 3.2-2**  
Representative Photos A and B  
(Looking east and southeast on W. Jayne Ave.)





Photograph C: View looking east on W. Jayne Avenue



Photograph D: View looking south directly at the Project site from W. Jayne Avenue



Photograph E: View looking west on W. Jayne Avenue

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SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-3**  
Representative Photos C, D and E  
(Looking east, south and west on W. Jayne Ave.)





special conservation treatment. Scenic corridors consist of land visible from, adjacent to, and outside the highway right-of-way, and consist primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional boundaries determine the corridor boundaries (Caltrans 2022a).

### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities in the state. PG&E's work (as regulated by CPUC) would not be subject to the County's or Kern County's regulation of aesthetics or visual resources. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters," potentially including impacts on visual resources.

## **Local**

### **County of Fresno General Plan**

The Open Space and Conservation Element of the Fresno County General Plan evaluates the scenic resources of Fresno County and provides policies intended to protect the county's scenic resources and ensure that development enhances those resources through methods such as identification, development review, and acquisition (Fresno County 2000). According to this element, the Project site has not been identified as a scenic resource.

The Fresno County General Plan also includes policies intended to protect scenic resources along county roadways by identifying, developing, and maintaining scenic amenities along roads and highways and ensuring that development enhances those resources. According to Policy OS-L.1, Fresno County has designated a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways. According to this element, the only designated scenic roadway in the vicinity of the Project site is I-5. Figure 3.2-1 shows I-5 relative to the Project site. Because of the angle of view (or cone of vision), intervening orchards, and the distance of the site from I-5, the Project site would not be generally visible from motorists traveling along I-5. No other scenic resources or vistas are identified in the General Plan.

The following goals and policies of the Fresno County General Plan related to aesthetics are relevant to the Project.

#### **Policy K. Scenic Resources**

**Goal OS-K:** To conserve, protect, and maintain the scenic quality of Fresno County and discourage development that degrades areas of scenic quality.

**Policy OS-K.1:** The County shall encourage the preservation of outstanding scenic views, panoramas, and vistas wherever possible. Methods to achieve this may include encouraging private property owners to enter into open space easements for designated scenic areas.

**Policy OS-K.4:** The County should require development adjacent to scenic areas, vistas, and roadways to incorporate natural features of the site and be developed to minimize impacts to the scenic qualities of the site.

#### Policy L. Scenic Roadways

**Goal OS-L:** To conserve, protect, and maintain the scenic quality of land and landscape adjacent to scenic roads in Fresno County.

**Policy OS-L.1:** The County designates a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways.

**Policy OS-L.3:** The County shall manage the use of land adjacent to scenic drives and scenic highways based on the following principles: ... b. Proposed high voltage overhead transmission lines, transmission line towers, and cell towers shall be routed and placed to minimize detrimental effects on scenic amenities visible from the right-of-way.

### 3.2.2 Significance Criteria

The Project would result in significant impacts on aesthetics if it would:

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

### 3.2.3 Direct and Indirect Effects

#### 3.2.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.1, *Glare and Lighting*, are relevant to this analysis of aesthetics.

#### 3.2.3.2 Methodology

This visual impact assessment identifies and assesses any short- and long-term adverse visual impacts on aesthetics and visual resources that could result from implementation of the Project. In the absence of a generally approved state or local system for evaluating the significance of potential impacts on aesthetics, this assessment included the following steps:

- (1) Identification of Project components that could affect representative views in the study area in terms of visual quality, character, and levels of light and glare. This identification was

informed by plans, descriptions, and simulations provided by the Applicant; Google Earth Pro aerial images and street-level photography; Fresno County Geographic Information System topographic and land use data; and U.S. Geological Survey topographic data.

- (2) Assessment of the Project's impacts on identified views through an evaluation of potential Project-caused changes to the affected area's baseline visual quality and character.

A significant visual impact may occur when a project does any of the following:

- (1) Perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale.
- (2) Introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale or become visually dominant in the viewshed.
- (3) Blocks or totally obscures valued aesthetic features of the landscape.

The degree of visual impact depends on the extent to which the visual change is noticeable, in conjunction with the site's visual sensitivity. The noticeability of a visual impact is a function of a project's features, context, and viewing conditions (angle of view, distance, and primary viewing directions). The key factors in determining the degree of visual change are visual contrast, project dominance, and view blockage. For the purposes of this analysis, the study area is defined as the visible landscape within a 2.5-mile radius of the Project site.

### 3.2.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would have a substantial adverse effect on a scenic vista.

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The Project would not have a substantial adverse effect on a scenic vista. The Project would add industrial elements to a landscape with other electrical and solar infrastructure. As discussed in Section 3.2.1.2, *Environmental Setting*, there are no parks and no designated or undesignated scenic vistas in the study area. The only public views of the Project site would be experienced by motorists traveling along West Jayne Avenue. For these reasons, the Project would have no impact on a scenic vista. (*No Impact*)

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**Criterion b)** Whether the Project would substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

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The Project would not damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. The Project site has been used for agricultural production. There are no historic buildings on the site and no natural resources such as rock outcroppings, or trees other than those planted for agricultural purposes. Project implementation would require the removal of existing trees and vegetation, but these trees are not considered scenic resources, per se.

There are no designated California state scenic highways near the Project site. The portion of SR 180 from the eastern edge of Fresno to Cedar Grove in Kings Canyon National Park is Fresno County's only officially designated state scenic highway. This portion of SR 180 is located more than 50 miles from the Project site. The California Scenic Highway Mapping System identifies four highway segments that are potentially eligible for future designation as scenic highways (Caltrans 2022a). Portions of SR 198, approximately 15 miles northwest of the Project site, and SR 33, 13 miles west of the Project site, are eligible for California State Scenic Highway designations. However, the Project site is not located within the viewshed of any of these eligible segments. Therefore, no impact on such resources would occur. (*No Impact*)

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**Criterion c)** Whether the Project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

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**Impact 3.2-1: The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. (*Less-than-Significant Impact*)**

Appendix G, Section I (Aesthetics) of the CEQA Guidelines suggests that “in non-urbanized areas,” a project would have a significant effect on the environment if it would “substantially degrade the existing visual character or quality of public views of the site and its surroundings.” *Public views* are defined for purposes of this evaluation as “those that are experienced from publicly accessible vantage point.” A different consideration is suggested if a project would be located in an urbanized area. The Project is not proposed for location in an area that meets the CEQA definition of “urbanized”<sup>1</sup> (Public Resources Code Section 21071). The closest city to the study area is Huron, which has a population of 5,700 people and is more than 4 miles to the north. The Project site is not located within the urbanized area of Huron. Therefore, the following analysis focuses on the potential for the Project to substantially degrade the existing visual character or quality of public views of the site and surroundings.

**Construction and Decommissioning**

Project construction activities and the presence of equipment would introduce a level of activity and visual change to the Project site during the various construction phases. As described in Section 3.2.1.2, *Environmental Setting*, the existing visual character of the Project site represents a combination of agricultural and industrial elements. Construction of the Project would involve earthwork, grading, and the construction, erection, and installation of facility equipment and infrastructure. Decommissioning would include the removal of structures and demolition of foundations, but would involve a similar use of (construction) equipment. These activities would require the presence and movement of delivery trucks, vehicles, and construction equipment and materials. Additionally, construction and decommissioning activities would require the use of storage, staging, and active work areas, presenting a temporary yet observable visual change to the site. However, because rural and industrial elements are present in the Project vicinity, there

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<sup>1</sup> California Public Resources Code Section 21071 defines *urbanized area* as an incorporated city with a population of at least 100,000 persons or a combined population of 100,000 persons, if two contiguous incorporated cities are present.

would not be a substantial visual change with the temporary introduction of Project construction materials or equipment. Therefore, the visual change observed during construction and decommissioning would not create a visual contrast or otherwise substantially degrade the visual character or quality of the site. The impact relative to construction and decommissioning activities would be less than significant.

### **Operation and Maintenance**

The Project would be developed in a non-urbanized area with existing industrial elements, including the existing solar facilities, transmission lines, and existing facilities of the PG&E Gates Substation. This analysis focuses on the potential effects of adding Project structures, and on overall visual change that could affect the public's experience of this locally designated scenic route. Public views of the site are experienced by travelers with low visual sensitivity to features in the background view (while traveling on I-5 at high speeds) or with moderate sensitivity (while traveling along other major roadways at lower speeds in the study area).

I-5 is a Fresno County (locally designated) scenic highway, and scenic views are available to motorists traveling along this route. Motorists appear to be able to view the Project site from West Jayne Avenue, but views of the site from along I-5 are very limited given the angle of view and intervening orchards. Moreover, the duration of views from I-5 would be very brief and viewer sensitivity low because of the speed at which motorists travel along the interstate. The visual resources assessment conducted for the Project determined that the Project would not be visible to motorists traveling on southbound I-5 north of the Project site, because of the presence of an existing solar facility and mature orchard within the intervening distance (Appendix M, Figure 9). Immediately south of the solar facility, there is an unobstructed view of the Project site from I-5 for approximately 0.10 mile. At a speed of 60 miles per hour, the 0.10 mile of unobstructed view could be visible for approximately 6 seconds. However, the visual assessment concluded that motorists would have to look directly west to see the site. As depicted in Figure 3.2-1, the Project site does not appear to be within the anticipated 60-degree cone of vision for motorists traveling on I-5. Because the Project site is outside of the 60-degree cone of vision, the Project would not generally be visible to motorists traveling on I-5.

To evaluate and illustrate a potential visual impact for the Project's two battery storage options, visual simulations were prepared from the perspective of KOP-1 and KOP-2 along West Jayne Avenue. The analysis considers the potential visual change from the identified KOPs (Figure 3.2-1) for the two energy storage system configuration options (the Lithium-Ion Battery Option and the Lithium-Ion and Iron-Flow Option). **Figures 3.2-4 through 3.2-7** display representative and simulated views of the two options from these KOPs.



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.



**Photograph 2.** Simulated view after construction of the proposed lithium-ion battery option.

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SOURCE: NextEra, 2022

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**Figure 3.2-4**  
KOP 1 Lithium Ion Battery Option  
(Representative view and visual simulation)





**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.



**Photograph 2.** Simulated view after construction of the proposed lithium-ion battery option.

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SOURCE: NextEra, 2022

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**Figure 3.2-5**  
KOP 2 Lithium Ion Battery Option  
(Representative view and visual simulation)





**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.



**Photograph 2.** Simulated view after construction of the proposed iron flow and lithium-ion battery option.

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SOURCE: NextEra, 2022

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**Figure 3.2-6**  
KOP 1 Iron Flow and Lithium Ion Battery Option  
(Representative view and visual simulation)





**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.



**Photograph 2.** Simulated view after construction of the proposed iron flow and lithium-ion battery option.

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SOURCE: NextEra, 2022

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**Figure 3.2-7**  
KOP 2 Iron Flow and Lithium Ion Battery Option  
(Representative view and visual simulation)

Under either option, the Project site would be surrounded by a 7-foot-tall chain-link security fence with an additional foot of three-strand barbed wire extension at the top. In addition, the on-site substation would be surrounded by an approximately 8-foot-tall perimeter security fence with an additional foot of three-strand barbed wire extension at the top. The Project would retain a 50-foot buffer between the facilities and surrounding properties, consistent with the Fresno County Solar Guidelines. Within the buildable footprint, the Project would add energy storage structures to the site in a configuration dependent on the type of battery system selected. For the lithium-ion and iron-flow option, the Project's energy storage facilities would include an open-air substation, energy storage system enclosures, power conversion system enclosures, electrolyzer tanks, energy storage system power train enclosures, auxiliary transformers and power load centers, a supervisory control and data acquisition (SCADA) system, a 500-kilovolt (kV) overhead service line to extend north to the PG&E Gates Substation installed on concrete or steel pole structures up to 150 feet tall, gravel access lanes, and other ancillary facilities and/or equipment.

**Figure 3.2-4** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion battery option (Photograph 2) from KOP-1 looking west-southwest toward the Project site from West Jayne Avenue approximately 1 mile. From this perspective, the lithium-ion energy storage system option would be moderately visible to motorists traveling west on West Jayne Avenue in the middle-ground view along the horizon.

**Figure 3.2-5** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion battery option (Photograph 2) from KOP-2 (looking west-southwest from westbound West Jayne Avenue) in closer proximity, approximately 1,000 feet from the Project site. As displayed in this simulation from KOP-2, the Project's substation and electrical infrastructure near the proposed site entrance would add industrial elements to the landscape. Additionally, the lithium-ion energy storage system structures would be visible in the middle-ground view along the horizon, introducing a moderate visual change to the landscape.

**Figure 3.2-6** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion and iron-flow option (Photograph 2) from KOP-1, approximately 1 mile from the Project site. As shown in the simulation from KOP-1, the lithium-ion and iron-flow option structures would be moderately visible along the middle-ground horizon from KOP-1. This energy storage system option introduces a moderate visual change from this perspective.

**Figure 3.2-7** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion and iron-flow option (Photograph 2) from KOP-2, in closer proximity approximately 1,000 feet from the Project site. As shown in the simulated view, industrial structures would be visible all along the horizon under this energy storage system option, and a cluster of industrial features (including the proposed substation) would be visible near the proposed entrance at West Jayne Avenue. The lithium-ion and iron flow option would introduce a moderate to moderately high visual change from this perspective, which is a relatively higher visual change than under the lithium-ion battery option.

Compared to the lithium-ion energy storage system option, the lithium-ion and iron flow option would introduce more highly visible structures to the site, and thus would introduce the highest

level of visual change to public views available along West Jayne Avenue. However, because the site is not considered visually sensitive, the introduction of these structures would not result in significant impacts and no mitigation is required. Impacts would be less than significant.

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, interconnection infrastructure would be needed for the Project. It would include four lattice steel towers designed to resemble existing towers in and near the existing PG&E Gates Substation. These towers would be highly visible to motorists traveling on West Jayne Avenue; however, because they would be designed to resemble existing structures, they would not introduce a significant visual change compared to existing conditions. The existing Gates Substation would be expanded as described in Section 2.5.10.1, *Gates Substation Modifications*, by approximately 2.6 acres. Modifications would include replacing the precast security wall to extend it by 200 feet to tie the new security wall into the existing security walls located on the north and south sides of the 500 kV yard, relocating and/or modifying existing security towers to accommodate the new wall, and potentially also to remove portions of the PG&E solar station that currently is located west of the substation. The replacement wall would integrate with existing infrastructure reducing interruptions in site lines, and so would not introduce a significant visual change compared to existing conditions. Necessary modifications to the Midway Substation are described in Section 2.5.10.2, *Midway Substation Modifications*, and would include replacing some existing features with substantially similar new ones and upgrading the existing 4-inch bus structure to 6 inches. Given the minor nature of these changes, changes at the Midway Substation would not introduce a significant visual change compared to existing conditions. As a result, impacts associated with these structures and the modifications to existing PG&E facilities at the Gates and Midway substations would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would create a new source of light and glare which would adversely affect day or nighttime views in the area.

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**Impact 3.2-2: The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area. (*Less-than-Significant Impact*)**

The Project would be in a rural environment with minimal existing light pollution under existing conditions. Although new sources of light and glare in such an environment would have a relatively large effect, the Project would not require extensive lighting and there are very few receptors nearby. As described in Section 2.5.5.4, security lighting, less than 14 feet tall, would be installed at the access gate and entrance to the energy storage structures. Applicant proposed measures to limit glare are included as part of the overall design, as described in Section 2.5.9.1 and summarized here. Lighting would be activated through a motion sensor or manual switch and would be on only when personnel are present. Lighting would be installed only in areas necessary for operations, security, and safety. All necessary lighting would be shielded downward to minimize its impact on surrounding properties and light pollution.

Because the Applicant has proposed measures such as shielding to limit unnecessary light or glare from the site (see Section 2.5.9.1, *Glare and Lighting*), impacts under this criterion would be less than significant. With implementation of the applicant proposed measures, no mitigation is required.

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above and would result in a less-than-significant impact.

Incremental impacts specific to the PG&E work would, like the Project, be less-than-significant impacts related to substantial degradation of the existing visual character or quality of public views of the site and its surroundings. Also like the Project as a whole, the PG&E work would cause no impact related to a substantial adverse effect on a scenic vista or substantial damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. No lighting is proposed to be introduced as a result of interconnecting the Project or as part of the Gates Substation or Midway Substation modifications, and so the PG&E Infrastructure would have no impact due to the creation of a new source of light or glare that would adversely affect day or nighttime views in the area.

**Mitigation:** None required.

## **3.2.4 Cumulative Effects Analysis**

Because the Project would have no impact related to a substantial adverse effect on a scenic vista or to substantial damage of scenic resources within a state scenic highway, the Project could not cause or contribute to any cumulative impact regarding these considerations.

### **Impact 3.2-3: The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources. (*Less-than-Significant Impact*)**

The study area for this analysis of cumulative impacts includes the site and surroundings within a 15-mile radius of the proposed Project, which represents a visual scenario that extends into the background view upon flat terrain in an existing rural agricultural and industrial region. The temporal scope for a consideration of cumulative effects is considered the proposed 40-year term of the requested conditional use permit, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. Decommissioning is proposed to occur in a phased manner and would include the removal of aboveground structures from the Project site. This analysis considers recently constructed renewable energy projects, and reasonably

foreseeable future projects such as those proposed in southern Fresno County and identified in Table 3.1-1, *Cumulative Projects List*, in Section 3.1, *Introduction to Environmental Analysis*.

The existing visual character or quality of public views could be affected by direct and indirect effects of the Project, including the temporary presence of construction equipment and materials and the permanent addition of energy storage infrastructure and associated electrical interconnection facilities, once operational. As noted under Impact 3.2-3, Project interconnection would also add structures such as 200-foot-tall lattice steel towers that would be similar in design to those in the existing visual landscape adjacent to the Gates Substation. The Project would contribute an incremental impact by adding these and other Project structures, such as energy storage enclosures, into the visual landscape. However, because the site is not considered visually sensitive or scenic in character, the introduction of the proposed structures would not substantially degrade the existing quality of public views or the visual character of the surroundings. When the Project's incremental impact is considered along with the incremental impacts of the past, present, and reasonably foreseeable future projects listed in Table 3.1-1, *Cumulative Projects List*, no significant adverse cumulative impact would result. The combined features present in the physical landscape would not be perceptibly uncharacteristic of the region or locale and would neither visually dominate the viewshed nor block or totally obscure valued aesthetic features of the landscape. The Project's incremental, less-than-significant impact would not be cumulatively considerable.

Regarding light and glare, the Project is proposed in a rural location with existing, proposed, and reasonably foreseeable future industrial-scale renewable energy developments. These types of developments tend to add incremental sources of light and glare to an otherwise rural environment. However, there are few residences nearby. As discussed in Impact 3.2-2, the Project would add motion detection or manual, shielded lighting as necessary for the security of the proposed energy storage systems and related infrastructure. The contribution of the proposed lighting would result in less-than-significant impacts, in part because few receptors are nearby and because the design measures would limit their effects on the surroundings. As noted in Impact 3.2-2, the Applicant has proposed measures such as shielding to limit unnecessary light or glare from the site (see Section 2.5.9.1, *Glare and Lighting*). Because all necessary lighting would be shielded downward to minimize its impact on surrounding properties, the light pollution impacts under this criterion would be less than significant. The incremental contribution of this lighting would not combine with existing sources of light and glare to result in impacts that would be cumulatively considerable. The cumulative impact would be less than significant.

**Mitigation:** None required.

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### 3.2.5 References

Caltrans (California Department of Transportation), 2022a. List of eligible and officially designated State Scenic Highways. Available: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed November 16, 2022.

Caltrans, 2022b. List of Officially Designated County Scenic Highways. Available: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed November 16, 2022.

Fresno County, 2000. *Fresno County General Plan*. Open Space and Conservation Element. Approved October 2000. Available: [http://www2.co.fresno.ca.us/4510/4360/General\\_Plan/GP\\_Final\\_policy\\_doc/Open\\_Space\\_Element\\_rj.pdf](http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Open_Space_Element_rj.pdf).

## 3.3 Agriculture and Forestry Resources

This section identifies and evaluates issues related to agricultural resources (including specific categories of farmland shown on maps prepared by the California Department of Conservation pursuant to the Farmland Mapping and Monitoring Program [FMMP], property zoned for agricultural use, and Williamson Act program resources) and forestry resources (including forest land and timberland). It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used in evaluating these impacts, and reports the results of the impact assessment.

The County received scoping input from the California Department of Conservation, Division of Land Resource Protection, and the Fresno County Development Services and Capital Projects Division, Policy Planning Unit, regarding the Project's potential impacts on agricultural resources. The specific input received related to potential impacts and mitigation measures regarding the Project site's designation as Prime Farmland and enrollment in the Williamson Act program. Copies of the letters are provided in Exhibit E of **Appendix A, Scoping Report**. The County received no scoping input regarding forestry resources.

The analysis in this section is based in part on the Project-specific, site-specific Land Evaluation and Site Assessment (LESA) prepared on the Applicant's behalf (**Appendix C, Agricultural Resources**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed the LESA (and other materials prepared by or on behalf of the Applicant) and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.3.1 Setting

#### 3.3.1.1 Study Area

The study area for agriculture and forestry resources includes farmland within Fresno County (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as shown on maps prepared pursuant to the FMMP), and forest land and timberland within Fresno County meeting the definitions provided below. For purposes of the LESA modeling, the study area includes the 318 acres within APNs 085-040-58, 085-040-36, and 085-040-37 (even though only approximately 260 acres would be developed for Project purposes) plus the Project's "zone of influence," which is defined to include the Project site and the surrounding 0.25-mile area.

#### 3.3.1.2 Environmental Setting

##### ***Agricultural Resources***

The Project site is located on lands with a Fresno County General Plan land use designation of Agriculture, and a zoning designation of AE-40 (Exclusive Agriculture, 40-acre minimum parcel) pursuant to Section 816 of the Fresno County Code. The AE District is intended as an exclusive agricultural district for uses necessary integral to an agricultural operation. The entire Project site

is proposed on land designated as Prime Farmland pursuant to the FMMP (DOC 2020). **Figure 3.3-1** depicts the FMMP-mapped farmland within Fresno County.

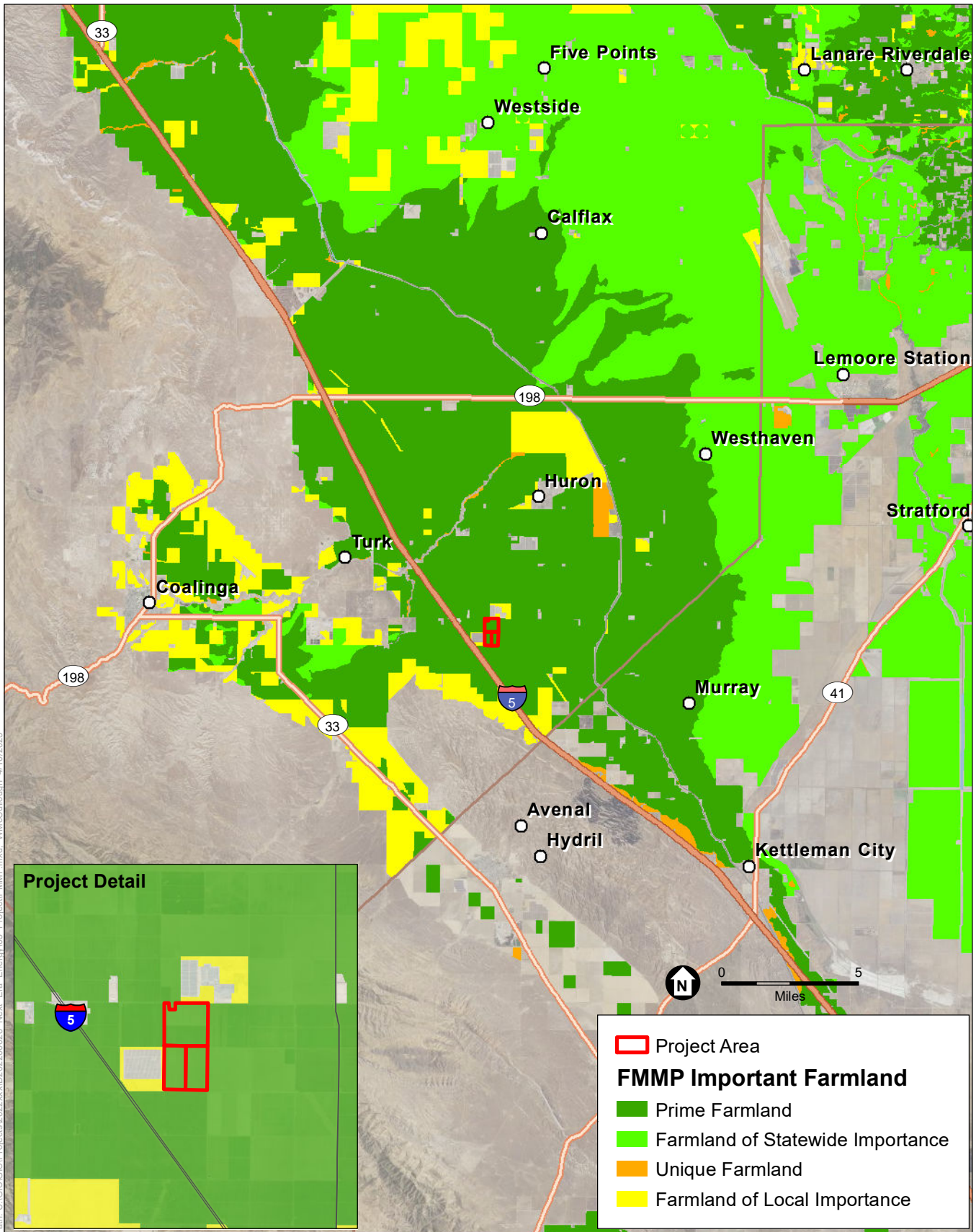
The parcels proposed for Project use have historically and recently been used for agricultural purposes. Recent on-site land uses on the northernmost Project parcel (APN 085-040-58) have included irrigated agricultural production (orchard crops such as citrus and almonds). Recent on-site land uses on the southern half of the project site have included non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern site boundaries, with the paved West Jayne Avenue forming the northern boundary, and two dirt roads cross east-west through the site.

All of the soils on the Project site are well-suited to agricultural use and consist of Westhaven loam (irrigated and non-irrigated), Kimberlina sandy loam (irrigated and non-irrigated), and Wasco sandy loam. Of the three types, the highest quality soils (Westhaven loam) are located predominately within the northernmost parcel (APN 085-040-585). The allocation of soil types within the Project site are shown in Appendix C Figure 3, *Project Site Soils*.

Agricultural use of the Project site can be constrained by water resource availability under exiting environmental conditions. The southern half of the Project site (APNs 085-040-36 and 085-040-37) is fallow and requires irrigation infrastructure to provide water from WWD. No groundwater is available to these parcels from on-site wells. Water allocation from WWD varies from year to year. For example, due to the low storage currently available in the Central Valley Project (CVP) reservoirs, which is one of the sources that supplies WWD, it was determined that the projected 2022-2023 CVP contract allocation would be 0 percent (Appendix C). As a result, while irrigated crop production could be feasible on the southern half of the Project site, there exists both a physical restriction (lack of water) and an economic restriction (cost of sourcing water from elsewhere) in this location during both drought and non-drought years.

The northernmost Project parcel (APN 085-040-58) is irrigated with water allocated by WWD and by water from on-site groundwater well located on the parcel. As a result, there would not be physical or economic restrictions to water resource availability to this parcel during non-drought years. However, during drought years, the lack of available water from WWD imposes a physical restriction that could require excess groundwater to be pumped to make up for losses in surface water supplies. Thus water resource availability to the northernmost Project parcel would be subject to an economic restriction. (Appendix C).





SOURCE: ESA, 2022, CDOC, 2020

NextEra- Key Energy Storage Project

**Figure 3.3-1**  
FMP Mapped Farmland in Fresno County

According to Fresno County Assessor’s parcel maps, the northernmost Project parcel (APN 085-040-58) is subject to a Williamson Act contract while the southern half of the Project site (APNs 085-040-36 and 085-040-37) is not. Within 0.25-mile of the Project site, the Williamson Act contract status of adjacent parcels is as follows:

- To the north, one adjacent parcel (APN 075-060-66) is subject to a Williamson Act contract, while the Gates Substation site (APNs 075-060-45 and 075-060-18) is not subject to a Williamson Act contract.
- To the east, one adjacent parcel (APN 085-050-01) is subject to a Williamson Act contract.
- To the south, one adjacent parcel (APN 085-040-024) is subject to a Williamson Act contract, and one parcel (APN 085-050-049) is not subject to a Williamson Act contract.
- To the west, the parcel adjacent to the northernmost Project parcel (APN 085-040-05) is subject to a Williamson Act contract while the parcel between the southern half of the Project site and an existing solar facility (APN 085-040-060) is not subject to a Williamson Act contract.

Neither the Gates Substation site nor the Midway Substation site is used for agricultural purposes, is mapped as Farmland, or is subject to a Williamson Act contract.

### ***Forestry Resources***

The Project site does not contain any land defined as forest land (as defined by Public Resources Code [Pub. Res. Code] Section 12220[g]), timberland (as defined by Pub. Res. Code Section 4526), or land zoned Timberland Production (as defined by Government Code Section 51104[g]). No trees are located on the Project site. Almost all lands available for timber production in Fresno County lie within the southern part of Sierra National Forest and the northern portion of Sequoia National Forest (Fresno County 2000); these forests are located far from the Project site.

### **3.3.1.3 Regulatory Setting**

#### ***Federal***

No federal plans or regulations apply to the Project’s analysis of agriculture or forestry resources.

#### ***State***

##### **California Farmland Mapping and Monitoring Program**

The California Department of Conservation’s FMMP provides a classification system for farmland based on technical soil ratings and current land use. The minimum land use mapping unit is 10 acres unless specified; smaller units of land are incorporated into the surrounding map classifications. The Project would be in a location classified as Prime Farmland (DOC 2020).

For the purposes of this environmental analysis, the term *Farmland* refers to the FMMP map categories *Prime Farmland*, *Unique Farmland*, and *Farmland of Statewide Importance* (hereafter collectively referred to as “Farmland”). Generally, any conversion of land from one of these

categories to a lesser quality category or a non-agricultural use would be considered to be an adverse impact. These map categories are defined as follows (DOC 2019):

**Prime Farmland:** Land which has the best combination of physical and chemical features able to sustain long term agricultural production. It 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:** Land that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

**Unique Farmland:** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated 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.

A fourth category is *Farmland of Local Importance*, which in Fresno County includes all farmable lands that do not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for dryland farming, irrigated pasture, confined livestock and dairy, poultry facilities, aquaculture, and grazing land. A fifth category is *Grazing Land*, which 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 and describes land on which the existing vegetation is suited to the grazing of livestock (DOC 2023a). Public Resources Code Section 21060.1 does not include either Farmland of Local Importance or Grazing Land in the definition of *agriculture*.

In California, land must meet at least one of the five criteria set forth below to qualify as prime agricultural land (Government Code Section 51201):

- (1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.
- (2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.<sup>1</sup>
- (3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre defined by the United States Department of Agriculture.
- (4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars (\$200) per acre.

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<sup>1</sup> The *Storie index* is a method of soil rating based on soil characteristics (e.g., depth, texture, permeability, chemical characteristics, drainage, surface runoff, and climate) that govern the land's potential utilization and productivity capacity. A Storie index rating of 80–100 classifies the land as “excellent,” the highest range of the index.

- (5) Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars (\$200) per acre for three of the past five years.

Each of the three parcels that comprise the Project site qualifies for rating 80 through 100 in the Storie Index Rating. The Storie Index Rating value is 95 for Westhaven loam (109 acres of the 318 acre study area), 90 for Kimberlina sandy loam (196 acres of the study area), and 81 for Wasco sandy loam (13 acres of the study area). The Storie Index does not take into account irrigated vs non-irrigated land (Table 4 of Appendix C).

### **California Land Conservation Act of 1965 (Williamson Act)**

The Williamson Act, also known as the California Land Conservation Act of 1965 (Government Code Section 51200 et seq.), is the state’s primary program aimed at conserving private land for agricultural and open space uses. The Williamson Act provides a mechanism through which private landowners can contract with counties and cities to voluntarily restrict their land to agricultural and compatible open space uses. In return, Williamson Act contracts offer tax incentives to property owners by ensuring that land is assessed for retained farming and open space uses (as opposed to assessments based on full market value). Contracts typically restrict land use to agriculture for a period of 10 years.

The Williamson Act establishes that specified uses are compatible with Williamson Act contracting. See Government Code Section 51238(a), which states: “Notwithstanding any determination of compatible uses by the county or city pursuant to this article, unless the board or council after notice and hearing makes a finding to the contrary, the erection, construction, alteration, or maintenance of... electric... facilities are hereby determined to be compatible uses within any agricultural preserve. [¶] No land occupied by... electric... facilities shall be excluded from an agricultural preserve by reason of that use.” According to Section 51238.1, a lead agency may approve uses on contracted lands if they are consistent with the following principles of compatibility:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

In evaluating compatibility, a lead agency considers the impacts of the proposed use on noncontracted lands in the agricultural preserve or preserves.

Williamson Act contracts automatically renew on each anniversary date of the contract unless the landowner petitions for cancellation or nonrenewal of the entire contract or a portion of the contracted land, and the participating county (or city) serves notice of nonrenewal or cancellation. In the case of nonrenewal the contract ends after nine years. In the case of cancellation, the contract ends with immediate effect, with approval of the cancellation by the Board of

Supervisors. The landowner must submit a proposal that describes how the land will be used after a contract is cancelled along with a list of all relevant public agencies with permit authority over the proposed use(s). Public notice and an assessment of fees (cancellation valuation) are required to certify the cancellation (DOC 2022a). Additionally, a county or city may grant tentative approval of a cancellation if it makes certain findings, i.e., either that cancellation is consistent with the Williamson Act or that cancellation is in the public interest (Government Code Section 51282[a]).

Cancellation of a contract would be consistent with the purposes of the Williamson Act only if all of the following findings are made (Government Code Section 51282[b]):

- (a) That the cancellation is for land on which a notice of nonrenewal has been served pursuant to Government Code Section 51245.
- (b) That cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- (c) That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.
- (d) That cancellation will not result in discontinuous patterns of urban development.
- (e) That there is no proximate noncontracted land<sup>2</sup> which is both available and suitable<sup>3</sup> for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.

### **California Farmland Conservancy Program of 1996**

The Division of Land Resource Protection administers the state-level California Farmland Conservancy Program, which widens the spectrum of agricultural land conservation options via the use of permanent agricultural conservation easements. The program protects and conserves agricultural lands through the administration of permanent agricultural conservation easements, provides a funding mechanism, and administers related technical assistance grant support for the purpose of agricultural protection (DOC 2023b).

### **California Public Resources Code**

Public Resources Code Section 12220(g) defines *forest land* as “land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” Public Resources Code Section 4526 defines *timberland* as “land, other than land owned by the federal government..., which is

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<sup>2</sup> *Proximate, noncontracted land* means “land not restricted by contract pursuant to this chapter, which is sufficiently close to land which is so restricted that it can serve as a practical alternative for the use which is proposed for the restricted land” (Government Code Section 51282).

<sup>3</sup> In this context, *suitable* for the proposed use means that the salient features of the proposed use can be served by land not restricted by a Williamson Act contract. Such nonrestricted land may be a single parcel or may be a combination of contiguous or discontinuous parcels (Government Code Section 51282).

available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees.”

## **Local**

### **Fresno County General Plan**

The Agriculture and Land Use Element of the General Plan describes land use designations and development standards for land in unincorporated Fresno County, and establishes goals, policies, and programs related to agriculture and land use. The General Plan land use designation for the Project site is Agriculture, which provides for the production of crops and livestock, and for location of necessary agriculture commercial centers, agricultural processing facilities, and certain non-agricultural activities. No overlay designations apply to the Project site (Fresno County 2000). The following goal, policies, and program related to agriculture are applicable to the Project:

**Goal LU-A:** To promote the long-term conservation of productive and potentially productive agricultural lands and to accommodate agricultural-support services and agriculturally-related activities that support the viability of agriculture and further the County’s economic development goals.

**Policy LU-A.1:** The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.

**Policy LU-A.2:** The County shall allow by right in areas designated Agriculture activities related to the production of food and fiber and support uses incidental and secondary to the on-site agricultural operation. Uses listed in Table LU-3 of the General Plan are illustrative of the range of uses allowed in areas designated Agriculture.

**Policy LU-A.3:** The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value-added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to (a) through (d) of the following criteria:

- a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;
- b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;
- c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (0.25) mile radius;
- d. A probable workforce should be located nearby or be readily available;

**Policy LU-A.12:** In adopting land use policies, regulations and programs, the County shall seek to protect agricultural activities from encroachment of incompatible land uses.

**Policy LU-A.13:** The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

**Policy LU-A.14:** The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.

**Policy LU-A.16:** The County should consider the use of agricultural land preservation programs that improve the competitive capabilities of farms and ranches, thereby ensuring long-term conservation of viable agricultural operations. Examples of programs to be considered should include: land trusts; conservation easements; dedication incentives; new and continued Williamson Act contracts; Farmland Security Zone Act contracts; the Agricultural Land Stewardship Program Fund; agricultural education programs; zoning regulations; agricultural mitigation fee program; urban growth boundaries; transfer of development rights; purchase of development rights; and agricultural buffer policies.

**Policy LU-A.17:** The County shall accept California Land Conservation contracts on all designated agricultural land subject to the acreage and use limitations established by the County.

**Policy LU-A.18:** The County shall encourage land improvement programs to increase soil productivity in areas containing lesser quality agricultural soils.

**Policy LU-A.19:** The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other agencies and organizations.

**Program LU-A.E:** The County shall continue to implement the County’s Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in their area.

### **Fresno County Zoning Ordinance**

The Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size) pursuant to Section 816 of the Fresno County Code. The “AE” District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district. Permitted uses within the AE district include livestock and poultry (breeding, raising and maintenance), raising crops, farm dwellings, packaging facilities, and other agricultural-related uses. Uses subject to Fresno County Director review and approval include communications equipment buildings, microwave relay structures, electrical (transmission and distribution) substations, and “commercial land leveling and development establishments when they are not operated in conjunction with, or as part of, a bona fide agricultural operation,” among others (Fresno County 2018).

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017). Although the Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. Multiple provisions of the Solar Facility Guidelines are relevant to this analysis of potential impacts related to agricultural resources. For analysis of the Project's consistency with the Solar Facility Guidelines as a whole, see Appendix I-2. The following guidelines are specific to agricultural resources:

- (1) Submission of information regarding historical agricultural use.
- (2) Submission of information regarding source of water.
- (3) Identification of current status with respect to Williamson Act, conservation easements, or other similar designation.
- (4) Identification of soil type and mapping units.
- (5) Description of measures that will be implemented to create a minimum 50-foot buffer from the edges of the property boundaries to the closest structural improvements or equipment (excluding fencing).
- (6) A reclamation plan detailing the time frame and approach to restoration of the site to agricultural use.
- (7) Details of efforts to locate the project on non-agricultural land.
- (8) Development of a weed and pest management plan.
- (9) Acknowledgement of the County's Right to Farm Ordinance.

### **Fresno County Right-to-Farm Ordinance**

For certain activities within 300 feet of an AE Zone District, Section 17.72.075(A) of the Fresno County Code of Ordinances requires the recordation with the Fresno County Recorder of a notice in substantially the following form:

*FRESNO COUNTY RIGHT-TO-FARM NOTICE*

*It is the declared policy of Fresno County to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products. Residents of property in or near agricultural districts should be prepared to accept the inconveniences and discomfort associated with normal farm activities. Consistent with this policy, California Civil Code §3482.5 (right-to-farm law) provides that an agricultural pursuit, as defined, maintained for commercial uses shall not become a nuisance due to a changed condition in a locality after such agricultural pursuit has been in operation for three years.*



In conformance with the Fresno County Solar Facility Guidelines, the Applicant would be required to record such a notice before the County's issuance of permits for the Project.

### 3.3.2 Significance Criteria

The Project would result in a significant impact related to agriculture and forestry resources if it would:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Res. Code Section 12220[g]), timberland (as defined by Pub. Res. Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- d) Result in the loss of forest land or conversion of forest land to non-forest use; or
- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

### 3.3.3 Direct and Indirect Effects

#### 3.3.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. Consistent with the Fresno County Solar Guidelines, the Project is designed such that there would be a minimum 50-foot buffer between proposed Project facilities and adjacent agricultural operations. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Although none of the actions specifically targets potential impacts on agriculture or forestry resources, multiple among them could have secondary benefits to such resources, such as the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*; Section 2.5.9.6, *Pest Management*; or Section 2.5.9.8, *Compliance with Applicable Laws and Standards*.

#### 3.3.3.2 Methodology

The Project's potential impacts on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance were evaluated based on the LESA model, as an analytical framework for rating the quality of the land based on specific measurable features. Factors considered by the LESA model include soils, site acreage, water availability, and surrounding land uses (Appendix C). Other resources, such as the Fresno County General Plan policies and County planning agricultural guidance, were also reviewed to inform this analysis.

A single LESA score is generated for a project after all the individual land evaluation (LE) and site assessment (SA) factors have been scored and weighted. The final scoring with 50 percent of the total LESA derived from LE factors, and 50 percent derived from SA, based on a 100-point scale (**Table 3.3-1**).

**TABLE 3.3-1  
LAND EVALUATION AND SITE ASSESSMENT MODEL SIGNIFICANCE THRESHOLDS**

| Total LESA Score | Scoring Decision   |
|------------------|--|
| 0 to 39 points   | Not considered significant.  |
| 40 to 59 points  | Considered significant only if LE and SA sub-scores are greater or equal to 20 points. |
| 60 to 79 points  | Considered significant unless either LE or SA sub-score is less than 20 points.        |
| 80 to 100 points | Considered significant.  |

NOTE: LE = Land Evaluation; LESA = Land Evaluation and Site Assessment; SA = Site Assessment

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Appendix C)

### 3.3.3.3 Direct and Indirect Effects of the Project

**Criterion a)** Whether the Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

The 318-acre area that includes the 260-acre Project site is Prime Farmland; no Unique Farmland or Farmland of Statewide Importance is found there. Accordingly, the Project would not convert any Unique Farmland or Farmland of Statewide Importance to non-agricultural use, and thus would cause no impact with respect to these types of Farmland. (*No Impact*)

**Impact 3.3-1: The Project would convert Prime Farmland to non-agricultural use. (*Less-than-Significant Impact*)**

As detailed in Chapter 2, *Project Description*, the Project would develop 260 acres within a 318-acre site that is mapped as Prime Farmland. Consistent with the Project-specific LESA evaluation (Appendix C), this analysis conservatively assumes that the entire 318-acre Project site would be converted to non-agricultural use for the Project’s anticipated 40-year conditional use permit (CUP) term because development and operation of the Project would effectively preclude agricultural use within the entirety of the 318-acre site during the term of Project use.

Construction, operation and maintenance, and decommissioning of the Project would take the affected acreage out of production for 40 years. However, construction and operation and maintenance of the proposed energy storage use would not adversely affect any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating.

As explained in the Project-specific LESA (Appendix C), the Storie Index Rating is “based on surface and subsurface chemical and physical soil properties and surface landscape features of the soil.” The chemical and physical soil properties of the soil would remain substantially the same under Project conditions. Soil chemical properties primarily include concentrations of specific chemicals such as phosphorus, nitrogen, carbon, and other nutrients. Project construction, operation and maintenance would have a less-than-significant impact on the chemical composition of onsite soils. No application of fertilizers or other soil amendments is proposed. Water-based dust suppression or appropriate soil stabilizers would be used for dust suppression. As analyzed in Section 3.10, *Hazards and Hazardous Materials*, the Project would cause a less-than-significant impact due to the routine transport, use, or disposal of hazardous materials and related to general accidental spills. While residual pesticides are present in onsite soils, the Project's proposed weed management and rodent control methods would not exacerbate them (see Appendix B2, *Pest Management Plan*). Physical properties of soil include color, texture, structure, porosity, density, consistency, stability, and temperature. The Project proposes no changes that would affect soil color; however, grading would result in soil compaction throughout most of the Project site to provide a stable base for proposed structures, equipment, and roads. Upon decommissioning, Project infrastructure would be removed and the site returned to a condition suitable for agricultural use pursuant to the requirements of a County-approved Reclamation Plan. Roads and other areas that were compacted during construction, operations, and decommissioning would be tilled to restore the sub-grade material to match the depth and density of surrounding properties. Clean compactable sub-grade material would be used to fill low areas. Sub-grade depth would be established from other properties located within 50 miles of the Project site or from the city of Fresno. Once established, locally sourced topsoil would be used to match the depth and density of surrounding properties. Compost would then be spread over the applied topsoil and the entire Project site would be tilled to mix and loosen the compost and topsoil. See Appendix B1, Draft Reclamation Plan, for additional details. The soil compaction that would occur during construction and last through the operation and maintenance period would be corrected during decommissioning, resulting in a less-than-significant impact during all phases of the Project because, unlike a subdivision or a shopping center, it would not affect the Project site’s long-term suitability for agricultural use.

As further explained in the Project-specific LESA (Appendix C), four general factors are used to determine the Storie Index Rating of a particular soil: (A) permeability, available water capacity, and depth of the soil; (B) the texture of the surface soil; (C) the dominant slope of the soil body; and (X) other conditions more readily subject to management or modification by the land user.” Regarding factor (A), Project impacts on permeability and depth of the soil would be limited to the construction and operation and maintenance periods, and would be corrected during Project decommissioning and site restoration. As analyzed in Section 3.19, *Utilities and Service Systems*, the Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years for at least the first 20 years. During the remaining years of the CUP period, water would be delivered to the Project site either by truck from an off-site source or via groundwater through a new or existing well. Once the Project is decommissioned and site restored, available water capacity would be the same as it is under pre-Project conditions: available to the northernmost Project parcel from the well in that location and potentially not at all to the southern half of the Project site based on the

availability of water to the WWD for allocation. Regarding factor (B), implementation of a County-approved Reclamation Plan with provisions like those proposed in Appendix B1, *Draft Reclamation Plan*, would ensure that the texture of surface soils were returned to a condition suitable for agricultural use. Regarding factor (C), the Project site is and would remain generally flat. Regarding the (X) factor, implementation of the Applicant-proposed measures and design features described in Section 2.5.9 of the Project Description, in combination with requisite compliance with applicable laws and standards for the protection of the environment and any conditions of approval imposed by the County as Lead Agency would further ensure that the Project would not adversely affect any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating.

In summary, the Project would result in a less-than-significant impact related to the conversion of Prime Farmland to non-agricultural use.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would conflict with existing zoning for agricultural use, or a Williamson Act contract.

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The site proposed for the Project is designated as Agricultural and is classified by the Fresno County Zoning Ordinance as AE-40 (Exclusive Agricultural, 40-acre minimum parcel size). The “AE” District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. The zoning designation does not specifically allow for energy storage facilities; however, the proposed uses may be permitted in any zone district, subject to consideration and approval by Fresno County of an unclassified CUP. The purpose of this process is to make a use that is not permitted by right as compatible as possible with the agricultural district and the intended uses therein. With approval of the CUP, there would be no conflict with agricultural zoning. (*No Impact*)

**Impact 3.3-2: The Project would be compatible with an existing Williamson Act contract. (*Less-than-Significant Impact*)**

The southern two Project site parcels (APN 085-040-036 and 085-040-037) are not currently enrolled in the Williamson Act program (Fresno County 2023a) and thus would not conflict with an existing Williamson Act contract.

The Project’s northern parcel (APN 085-040 058) is subject to Williamson Act Contract No. 2068 and would be petitioned for cancellation by the landowners as part of the Project. Even if cancellation were not proposed, the Project’s proposed energy storage facilities are electric facilities and, as such, would be compatible with the existing Williamson Act contract pursuant to Government Code Section 51238(a).

Separately, the proposed energy storage use of the northernmost Project site parcel would be consistent with the principles of compatibility set forth in Government Code Section 51238.1. First, the proposed energy storage use would not significantly compromise the long-term

productive agricultural capability of the contracted parcel for the reasons explained in the context of Impact 3.3-1. The proposed use also would not significantly compromise the long-term productive agricultural capability of other contracted lands. Surrounding parcels adjacent to the Project site are a mix of contracted and non-contracted lands. The mix in this area shows that contracted and noncontracted lands can coexist in proximity to one another without compromising agricultural productivity in the area.

Second, the proposed energy storage use of the northernmost Project parcel would not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or on other contracted lands in agricultural preserves. Although current agricultural use of the parcel would be suspended for the term of the CUP, displacement would not occur because the site would be returned to a condition suitable for the resumption of agricultural use during Project decommissioning and site reclamation. Reasonably foreseeable agricultural operations would continue on the subject parcel at that time. The proposed use also would not significantly displace or impair current or reasonably foreseeable agricultural operations on other contracted lands in agricultural preserves. Consistency of the Project with the County's solar facility guidelines would ensure that the County's policy balance of the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations would be met. Further, the Applicant's compliance with Section 17.72.075(A) of the Fresno County Code of Ordinances would result in the recordation with the Fresno County Recorder of a right-to-farm notice acknowledging Fresno County's declared policy "to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products" and accepting that "the inconveniences and discomfort associated with normal farm activities" may affect conditions on the Project site.

Finally, the proposed use would not result in the significant removal of adjacent contracted land from agricultural or open-space use. As noted above, the immediate area reflects a mix of contracted and non-contracted parcels. To the north, one of three adjacent parcels is subject to a Williamson Act contract; the parcels that comprise the Gates Substation site are not subject to a Williamson Act contract. To the east, one adjacent parcel is subject to a Williamson Act contract. To the south, the two non-contracted Project parcels separate the contracted parcel from the one of two parcels adjacent parcels that is subject to a Williamson Act contract. To the west, the parcel adjacent to the northernmost Project parcel is subject to a Williamson Act contract. See Section 3.3.1.2, *Environmental Setting*, for additional details. The Project would not result in the significant removal of adjacent contracted land because the impacts of the proposed use on agricultural operations on adjacent contracted land would be minimized by the Project's compliance with the solar facility guidelines. Consistent with the solar facility guidelines, the Applicant has committed to implementing measures to create a minimum 50-foot buffer from the edges of the property boundaries to the closest structural improvements or equipment (excluding fencing) and to implementing a reclamation plan that details the time frame and approach to restoration of the site to agricultural use (see Appendix B1). Even if adjacent contracted land was removed from agricultural or open-space use, the removal would not result in a significant adverse impact on the physical environment because, as shown in Figure 3.3-1, western Fresno County in the vicinity of the Project site would remain overwhelmingly in agricultural use

consistent with the land's FMMP mapping designations of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland and consistent with Fresno County's designation of lands that are Farmland of Local Importance.

In summary, the proposed electrical facility use of the northernmost Project parcel for an energy storage facility would be compatible with the Williamson Act and the southern half of the Project site is not subject to a Williamson Act contract at all. As a result, the project would have a less-than-significant impact relating to an existing Williamson Act contract.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104).

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The Project site does not contain any forest land (as defined by Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or land zoned Timberland Production (as defined by Government Code Section 51104[g]). The Project site is zoned AE-40, and the Project would not require a change to that designation. Therefore, the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, and no impact would occur under this criterion. *(No Impact)*

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**Criterion d)** Whether the Project would result in the loss of forest land or conversion of forest land to non-forest use.

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As described in Section 3.3.1.2, *Environmental Setting*, the Project site does not contain any mature trees or forest land. The site has historically been used for agricultural purposes. Therefore, the Project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur under this criterion. *(No Impact)*

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**Criterion e)** Whether the Project would 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.

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The Project is not proposed on forest land; therefore, no conversion of forest land to non-forest use would occur with implementation of the Project. No impact would occur with respect to forest conversion.

**Impact 3.3-3: The Project would involve 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 Impact)**

The Project would involve direct and indirect changes to farmland. As discussed in this section, conversion of the site from Prime Farmland and cancellation of the Williamson Act status of the northern Project parcel would directly result in decreased agricultural production on the Project site. As described in Section 3.3.1.2, *Environmental Setting*, and detailed in the LESA (Appendix C), seven parcels in the zone of influence for the Project are actively used for agricultural purposes and five parcels are located on Williamson Act–contracted land. The Project would limit direct effects on the surrounding farmland because the Project design allows for a 50-foot buffer between proposed Project components and neighboring agricultural operations (consistent with the Fresno County Solar Guidelines). Direct effects would be limited to the parcels within the Project site.

The Project is strategically proposed in a location near the PG&E Gates Substation and would provide an energy storage mechanism for industrial-scale solar projects and connect to the energy grid at this location. Given the nature of the Project as an energy storage project, the proposed use could attract other solar development, which would enable storage of the energy collected by solar facilities. As an indirect effect, the conversion of agricultural parcels in the zone of influence and in the surrounding landscape could result. Thus, by virtue of the Project’s location and nature, implementing the Project would involve changes to the existing environment, which could indirectly contribute to the conversion of Farmland to non-agricultural use.

However, it is noteworthy that the development of battery energy storage projects (such as the Project) follows in the footsteps of the development of renewable energy generation projects in the region, rather than leading it. Moreover, such projects have been mandated by state policies (such as those found in Assembly Bill 2514 and California Public Utilities Commission Ruling R.20-05-003) to enhance energy grid reliability and provide a niche solution to energy capacity challenges and in the state, consistent with California’s Renewables Portfolio Standard and state objectives to increase net qualifying energy capacity. Hence, the central force of attraction for the development of renewable energy projects in the region is arguably the PG&E Gates Substation, and not the Project itself. Therefore, the Project would not directly cause or result in conversion of surrounding farmland to non-agricultural use. The resulting impact would be indirect and less than significant.

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, Project interconnection would include installation up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the PG&E Gates Substation to the Project site) on lattice towers each up to 200 feet tall, and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

The PG&E work would have no impact on forest resources because those sites do not contain any forest land (as defined by Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or land zoned Timberland Production (as defined by Government Code Section 51104[g]). The PG&E work also would have no impact on agricultural resources because the electric infrastructure proposed by PG&E is an allowable use within lands zoned for agricultural uses (subject to Fresno County Planning Director's review and approval), no conversion of Farmland (as shown on FMMP maps) would occur, and neither the Gates Substation site nor the Midway Substation site is subject to a Williamson Act contract.

**Mitigation:** None required.

### 3.3.4 Cumulative Effects Analysis

The Project would have no impact due to a conflict with existing zoning for, and would not cause rezoning of, forest land, timberland, or timberland zoned Timberland Production; and would have no impact due to a loss of forest land or the conversion of forest land to non-forest use. Therefore, the Project would cause no impact that could cause or contribute to cumulative impacts on these resources. (*No Impact*)

**Impact 3.3-4: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Farmland to non-agricultural use. (*Less-than-Significant Impact*)**

The geographic context for potential cumulative impacts related to conversion of Farmland to non-agricultural use consists of Farmland mapped as Prime Farmland by the FMMP because this is the only mapping category that would be affected by the Project. The temporal context for potential cumulative impacts due to the conversion of Prime Farmland would be limited to the construction and operations and maintenance phases of the Project because Project decommissioning and site restoration would return the site to a condition suitable for continued agricultural use.

Ongoing impacts of past projects on agricultural resources are reflected in the environmental setting and specifically include the conversion of Prime Farmland to solar facilities and other renewable energy development in the region. For example, Fresno County is the third fastest of all California counties to lose Farmland, and the seventeenth fastest in the nation (Shulman 2022). Further, the Three Rocks Solar Project and the Fifth Standard Solar Project Complex are located on Prime Farmland (DOC 2020). The EIR prepared for the Fifth Standard Solar Project Complex found significant and unavoidable impacts with respect to pressures to convert farmland to non-agricultural use through the precedent-setting conversion of a 1,600-acre Prime Farmland site in favor of solar facilities, which would contribute to a cumulative impact on agricultural resources (Fresno County 2020). As analyzed in the context of Impact 3.3-1, the Project would have a less-than- significant impact related to the conversion of Prime Farmland to non-agricultural use because Project development would not significantly adversely impact any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating. Collectively, the incremental impacts of the Project when combined with the



incremental impacts of the past, present, and reasonably foreseeable future projects would result in a significant cumulative impact related to the conversion of Farmland to non-agricultural use.

However, the Project's incremental, less-than-significant contribution would not be cumulatively considerable because the Project site would be returned to a condition suitable for continued agricultural use with substantially the same soil conditions as currently exist.

**Mitigation:** None required.

**Impact 3.3-5: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect related to an existing Williamson Act contract. (*Less-than-Significant Impact*)**

Fresno County describes the Williamson Act as “a means to restrict the uses of agricultural and open space lands to farming and ranching uses during the length of the contract period. The Williamson Act Program was also envisioned as a way for local governments to integrate the protection of open space and agricultural resources into their overall strategies for planning urban growth patterns” (Fresno County 2023b). Given Fresno’s countywide focus in implementing the program, the geographic context for this analysis of potential cumulative impacts related to a conflict with an existing Williamson Act contract includes the approximately 1.5 million acres of farmland that were within Williamson Act contracts in the county in 2014 and 2015 (the most recent time frame for which contract status information is readily available as of the issuance of this Draft EIR), although nonrenewal contracts expired on approximately 9,447 acres during that same time period (Fresno County 2020). The temporal context for potential cumulative impacts related to existing Williamson Act contract status would begin with the initiation of on-site activities and would end with either the successful cancellation of Williamson Act Contract No. 2068 or site decommissioning and site restoration, which is when the Project’s less-than-significant impact associated with existing contract compatibility would be resolved by removal of electrical facility infrastructure from the parcel. Although identifying Williamson Act contract status trend data can be challenging because of inconsistent reporting (DOC 2022b), this analysis conservatively assumes that a significant cumulative impact exists with respect to Williamson Act conflicts.

According to Fresno County Assessor’s maps, Williamson Act Contract No. 2068 applies to the 161.26 acres that compose the northernmost Project site parcel (APN 085-040-58). Relative to the number of contracted acres in the County, the Project’s removal of 161.26 acres would not be cumulatively considerable because it would be so minimal. Further, the purposes of the Williamson Act could still be met after APN 085-040-58 is unenrolled from the program: Adjacent agricultural uses would not be adversely affected by the Project site’s renewable energy use, and the Project site itself could be returned to agricultural use after reclamation. Thus, cancellation of Williamson Act Contract No. 2068 would not affect the County’s integration of the protection of open space and agricultural resources into its overall strategies for planning urban growth patterns. For these reasons, even if a significant cumulative effect is assumed to exist, the Project’s incremental contribution would not be cumulatively considerable.

**Mitigation:** None required.

### Criteria c) and d)

Because the Project would result in no impact to criteria c) and d), it could not cause or contribute to any cumulative effect relative to these considerations. No cumulative effect would occur.

**Mitigation:** None required.

### Criterion e)

**Impact 3.3-6: The Project would not result in a cumulatively considerable contribution to a significant cumulative effect involving changes in the existing environment, which could result in conversion of Farmland to non-agricultural use. (*Less-than-Significant Impact*)**

The Project site and multiple adjacent and nearby parcels are mapped as Farmland as part of the FMMP. The Project could contribute a less-than-significant incremental impact to the cumulative impact of conversion caused by past projects (as described in Section 3.3.1.2, *Environmental Setting*) and other present and reasonably foreseeable future projects during the Project's construction and operation and maintenance period. For example, the Scarlet Solar Project is located on Farmland of Statewide Importance and Farmland of Local Importance. The Three Rocks Solar Project and the Fifth Standard Solar Project Complex are located on Prime Farmland (DOC 2020). The EIR prepared for the Fifth Standard Solar Project Complex found significant and unavoidable impacts with respect to pressures to convert farmland to non-agricultural use, through the precedent-setting conversion of a 1,600-acre Prime Farmland site in favor of solar facilities, which would contribute to a cumulative impact on agricultural resources (Fresno County 2020). This analysis assumes that a significant adverse cumulative impact exists as a result Farmland conversion caused primarily by development pressure and water scarcity.

The Project's incremental, less-than-significant impact, in combination with the incremental impacts of other projects in the cumulative scenario, would not be cumulatively considerable because the site characteristics that qualify it as Farmland would be restored to conditions suitable for continued agricultural use upon Project decommissioning. There would be no ongoing Project-caused contribution to cumulative effects following decommissioning because the characteristics that qualify the site as Prime Farmland would be retained and agricultural use of the site would resume. The Project's incremental impact would be less than cumulatively considerable and less than significant.

**Mitigation:** None required.

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### 3.3.5 References

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## 3.4 Air Quality

This section identifies and evaluates issues related to air quality planning and conditions, including those pertaining to criteria pollutants and the exposure of sensitive receptors to substantial pollutant concentrations, odors, and other emissions. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping comments from the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to air pollutant emissions. SJVAPCD concluded that emissions associated with Project construction and operation may exceed the significance thresholds as identified in its *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015a). Therefore, SJVAPCD commented that if significant air quality impacts are identified, the EIR must include a discussion on implementing a Voluntary Emission Reduction Agreement (VERA) for the Project as a mitigation measure. SJVAPCD also recommended that the Project be evaluated for potential health impacts on surrounding sensitive receptors, and that if emissions exceed 100 pounds per day (lb/day) of any pollutant, an ambient air quality analysis should be performed. The SJVAPCD also recommended the use of CalEEMod to estimate Project emissions, conducting a Health Risk Assessment, utilizing the cleanest available off-road construction equipment, and identifying applicable rules and regulations to the Project. A copy of the letters is provided in Exhibit E of **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the Project-specific air quality and greenhouse gas emissions analysis technical report prepared on the Applicant's behalf (**Appendix D1**, *Air Quality and Greenhouse Gas Study*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR.

### 3.4.1 Environmental Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects air quality.

#### 3.4.1.1 Study Area

The Project would be developed on up to 260 acres of private property in western Fresno County directly adjacent to existing transmission lines and the PG&E-owned Gates Substation. The Project site is located approximately 11.5 miles east of Coalinga, 7.5 miles north of Avenal, 4 miles southwest of Huron, 1,700 feet northeast of Interstate 5 (I-5) at the closest point, immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State

Route 269). The land to the south, east, and west of the Project site is used primarily for agricultural purposes, the existing PG&E Gates Substation is located to the north, and solar facilities are located to the north and southwest of the Project site.

### 3.4.1.2 Regional Topography, Meteorology, and Climate

#### **Criteria Air Pollutants**

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria (see Section 3.4.1.3, *Regulatory Setting*). The following criteria pollutants are a concern in the study area.

#### **Ozone**

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere; instead, it is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen ( $\text{NO}_x$ ), including nitrogen dioxide ( $\text{NO}_2$ ), and the presence of sunlight. ROG and  $\text{NO}_x$  are known as *precursor compounds* for ozone. Generally, for significant ozone production to occur, ozone precursors must be present in a stable atmosphere with strong sunlight for approximately 3 hours.

Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of ROG and  $\text{NO}_x$  under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

#### **Particulate Matter**

Respirable particulate matter ( $\text{PM}_{10}$ ) and fine particulate matter ( $\text{PM}_{2.5}$ ) represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

#### **Other Criteria Pollutants**

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature

inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the blood's oxygen-carrying capacity, thus reducing the amount of oxygen that reaches the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Sulfur dioxide (SO<sub>2</sub>) is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO<sub>2</sub> is also a precursor to the formation of atmospheric sulfate and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. Lead has a range of adverse neurotoxin health effects and was formerly released into the atmosphere primarily via leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

### **Toxic Air Contaminants**

Toxic air contaminants (TACs) are airborne substances that can cause short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes nearly 200 compounds, including diesel particulate matter (DPM) emissions from diesel-fueled engines (CARB 2011).

### **Valley Fever**

Valley Fever (also known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. Valley Fever is also known as San Joaquin Valley Fever, Desert Fever, or Cocci. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes such as wind or earthquakes, or by human-induced ground-disturbing activities such as construction and farming.

The California Department of Public Health (CDPH) received 7,252 and 8,030 new Valley Fever case reports in 2020 and 2021, respectively (CDPH 2022). Approximately 40 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Coccidioidomycosis is highly endemic in the San Joaquin Valley and remains an important public health problem in California. There is currently no vaccine; however, efforts to develop a vaccine are ongoing (CDPH 2022). Because the county has more than 20 cases per year per 100,000 people, Valley Fever is considered “highly endemic” in Fresno County (CDIR 2022), and the western part of the county is considered an area of elevated Valley Fever activity (Fresno County 2023a). In susceptible people and animals, infection occurs when a *Coccidioides immitis* spore is inhaled.

The Centers for Disease Control and Prevention (CDC) and Fresno County report that farm workers, construction workers, others who engage in soil-disturbing activities, and anyone spending time outdoors in western Fresno County are at risk for contracting Valley Fever (CDC 2022a; Fresno County 2023a, 2023b). High winds can carry dust containing the spores for long distances. Most people infected with Valley Fever have no symptoms, but if symptoms develop, they usually

occur in the lung and initially resemble the flu or pneumonia (e.g., fatigue, cough, shortness of breath, chest pain, fever, rash, headache, and joint aches). Valley Fever is not contagious, and secondary infections are rare.

On average, approximately 200 Valley Fever–associated deaths (deaths in which Valley Fever was listed as a primary or contributing cause on a death certificate) occurred in the United States each year between 1999 and 2019 (CDC 2022a). The number of cases of Valley Fever in Fresno County has varied in the past several years. Between 2011 and 2014, the total number of cases decreased from 22,634 to 8,232; however, in 2019, the number of total cases spiked to 20,003, from 15,611 cases reported in 2018. Those most at risk of developing severe symptoms include Hispanics, African Americans, Filipinos, pregnant women, adults of older age groups, and people with weakened immune systems (CDC 2022b).

### ***Existing Air Quality***

The Project is located in Fresno County, which is within the San Joaquin Valley Air Basin (SJVAB), the largest air basin in the state. The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates sources of air pollution within the county and the SJVAB. SJVAPCD maintains a regional monitoring network that measures ambient concentrations of criteria pollutants in the SJVAB. Ambient air quality measurements from air monitoring stations maintained by SJVAPCD help to determine the level of air quality in the local area.

The closest SJVAPCD monitoring station to the Project site is the Tranquillity Station at 32650 West Adams Avenue, approximately 37 miles to the northwest, which monitors ozone and PM<sub>2.5</sub> concentrations. The closest station that measures PM<sub>10</sub> and NO<sub>2</sub> concentrations is the Fresno-Drummond monitoring station, located approximately 35 miles away. **Table 3.4-1** shows a 5-year (2017–2021) summary of ozone, PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>2</sub> data monitored at the stations. For the purposes of this analysis, these measurements were considered representative of air quality conditions in the Project vicinity. The data are compared to the California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS).

### ***Attainment Status***

Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as *non-attainment areas* for that pollutant. To address non-attainment areas, California created the California State Implementation Plan (SIP), which is designed to provide control measures needed to attain ambient air quality standards. SJVAPCD is the jurisdictional entity in the SJVAB that is responsible for implementing the SIP. SJVAPCD developed regional air quality management plans to implement control measures to try to achieve attainment status for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> (see Section 3.4.1.3, *Regulatory Setting*). The attainment status for criteria pollutants within the SJVAB is shown in **Table 3.4-2**, *San Joaquin Valley Attainment Status by Pollutant*.



**TABLE 3.4-1  
AIR QUALITY DATA SUMMARY (2017–2021) FOR THE SAN JOAQUIN VALLEY**

| Pollutant   | Standard              | Monitoring Data by Year |                |       |       |       |
|---|-----------------------|-------------------------|----------------|-------|-------|-------|
|   |                       | 2017                    | 2018           | 2019  | 2020  | 2021  |
| <b>Ozone</b>  |                       |                         |                |       |       |       |
| Highest 1-Hour Average, ppm   |                       | 0.09                    | 0.09           | 0.08  | 0.09  | 0.09  |
| Days over State Standard  | 0.09 ppm              | 0                       | 0              | 0     | 0     | 0     |
| Highest 8-Hour Average, ppm   |                       | 0.076                   | 0.083          | 0.071 | 0.079 | 0.080 |
| Days over State/National Standards <sup>a</sup>                       | 0.070 ppm             | 10                      | 7              | 3     | 3     | 5     |
| <b>Fine Particulate Matter, PM<sub>2.5</sub></b>                      |                       |                         |                |       |       |       |
| Highest 24-Hour Average, µg/m <sup>3</sup>                            |                       | 62.4                    | 94.5           | 20.3  | 146.2 | 65.3  |
| Measured days over National Standard Exceedances/Samples <sup>b</sup> | 35 µg/m <sup>3</sup>  | 6                       | 16             | 0     | 21    | 7     |
| Annual Average, µg/m <sup>3</sup>                                     |                       | 8.3                     | 11.1           | 5.8   | 11.4  | 8.9   |
| Exceed State Standard?  | 12 µg/m <sup>3</sup>  | No                      | No             | No    | No    | No    |
| <b>Respirable Particulate Matter, PM<sub>10</sub></b>                 |                       |                         |                |       |       |       |
| Highest 24-Hour Average <sup>c</sup>                                  |                       | 120.5                   | 154.8          | 181.3 | 349.2 | 149.8 |
| Measured Days over State Standard <sup>b</sup>                        | 50 µg/m <sup>3</sup>  | 112                     | 116            | 78    | NA    | NA    |
| Measured Days over National Standard <sup>b</sup>                     | 150 µg/m <sup>3</sup> | 0                       | 0 <sup>c</sup> | 6     | 6     | NA    |
| State Annual Average  |                       | 6                       | 6              | 39.6  | NA    | NA    |
| Exceed State Standard?  | 20 µg/m <sup>3</sup>  | No                      | No             | Yes   | NA    | NA    |
| <b>Nitrogen Dioxide, NO<sub>2</sub></b>                               |                       |                         |                |       |       |       |
| Highest 1-Hour Average  |                       | 0.065                   | 0.076          | 0.042 | 0.067 | 0.065 |
| Days over State Standard  | 0.18 ppm              | 0                       | 0              | 0     | 0     | 0     |
| Days over National Standard   | 0.100 ppm             | 0                       | 0              | 0     | 0     | 0     |
| State Annual Average  |                       | NA                      | 0.013          | NA    | NA    | NA    |
| Exceed State Standard?  | 0.030 ppm             | NA                      | No             | NA    | NA    | NA    |

## NOTES:

µg/m<sup>3</sup> = micrograms per cubic meter; NA = not available; ppm = parts per million

An exceedance of a standard is not necessarily related to a violation of the standard. Generally, state standards are not to be exceeded and national standards are not to be exceeded more than once per year. Values in **bold** are in excess of applicable standard.

- In October 2015, the U.S. Environmental Protection Agency implemented a new national 8-hour ozone standard of 0.070 ppm.
- Measurements of PM<sub>2.5</sub> and PM<sub>10</sub> are usually collected every 1–3 days. The number of days exceeding the standards is a mathematical estimate of the number of days that concentrations would have been greater than the level of the standard had each day been monitored.
- Highest measurements are relative to the state standard approach. Highest measurements relative to the national standard are lower.

SOURCE: CARB 2023

**TABLE 3.4-2  
 SAN JOAQUIN VALLEY ATTAINMENT STATUS BY POLLUTANT**

| <b>Pollutant</b>                                  | <b>Federal</b>                | <b>State</b>            |
|---|-------------------------------|-------------------------|
| Ozone (1-hour standard)                           | No Federal Standard           | Non-attainment/Severe   |
| Ozone (8-hour standard)                           | Non-attainment/Extreme        | Non-attainment          |
| Carbon Monoxide (CO)                              | Attainment/Unclassified       | Attainment/Unclassified |
| Nitrogen Dioxide (NO <sub>2</sub> )               | Attainment/Unclassified       | Attainment              |
| Sulfur Dioxide                                    | Attainment/Unclassified       | Attainment              |
| Lead  | No Designation/Classification | Attainment              |
| Hydrogen Sulfide                                  | No Federal Standard           | Unclassified            |
| Sulfates  | No Federal Standard           | Attainment              |
| Visibility  | No Federal Standard           | Unclassified            |
| Vinyl Chloride                                    | No Federal Standard           | Attainment              |
| Fine Particulate Matter (PM <sub>2.5</sub> )      | Non-attainment                | Non-attainment          |
| Respirable Particulate Matter (PM <sub>10</sub> ) | Attainment                    | Non-attainment          |

SOURCE: SJVAPCD 2023

### ***Sensitive Receptors***

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include age, preexisting health problems, proximity to emissions sources, and duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality–related health problems than the public. Residential areas are considered sensitive to poor air quality because people usually stay at home for extended periods, with greater associated exposure to ambient air quality.

Recreational uses are also considered sensitive given recreationists’ greater exposure to ambient air quality conditions, because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The closest sensitive receptors to the Project site include agricultural housing roughly 3,300 feet to the west, 11,500 feet to the southeast, and 17,000 feet to the east. There are no other sensitive receptors in the immediate vicinity of the Project site.

### **3.4.1.3 Regulatory Setting**

Federal, state, and local government agencies work both jointly and individually to improve air quality in the SJVAB through legislation, regulations, planning, policymaking, education, and a variety of programs. The air pollutants of concern, the agencies primarily responsible for improving air quality within the SJVAB, and the pertinent regulations are discussed below.

## Federal

Regulation of air pollution is achieved through both the CAAQS and NAAQS and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), USEPA has identified criteria pollutants and has established NAAQS to protect public health and welfare. NAAQS have been established for ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. As discussed above, these pollutants are called “criteria” air pollutants because standards have been established for each to meet specific public health and welfare criteria.

To protect human health and the environment, USEPA has set “primary” and “secondary” maximum ambient thresholds for all seven criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions, such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

As discussed previously, the NAAQS are defined as the maximum acceptable concentration that may be reached but not exceeded more than once per year. California has adopted more stringent ambient air quality standards (i.e., the CAAQS) for most of the criteria air pollutants. **Table 3.4-3** presents both sets of ambient air quality standards (national and state) and provides the attainment status for each. California has also established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

**TABLE 3.4-3  
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS**

| Criteria Pollutant                                | Averaging Time          | State Standard                | Federal Primary Standard |
|---|-------------------------|-------------------------------|--------------------------|
| Ozone   | 8 Hours                 | 0.070 ppm                     | 0.070 ppm                |
|   | 1 Hour                  | 0.09 ppm                      | –                        |
| Carbon Monoxide                                   | 8 Hours                 | 9.0 ppm                       | 9 ppm                    |
|   | 1 Hour                  | 20 ppm                        | 35 ppm                   |
| Nitrogen Dioxide                                  | Annual Average          | 0.030 ppm                     | 0.053 ppm                |
|   | 1 Hour                  | 0.18 ppm                      | 0.100 ppm                |
| Sulfur Dioxide                                    | Annual Average          | –                             | 0.030 ppm                |
|   | 24 Hours                | 0.04 ppm                      | 0.14 ppm                 |
|   | 1 Hour                  | 0.25 ppm                      | 0.075 ppm                |
| Respirable Particulate Matter (PM <sub>10</sub> ) | Annual Arithmetic Mean  | 20 mg/m <sup>3</sup>          | –                        |
|   | 24 Hours                | 50 mg/m <sup>3</sup>          | 150 mg/m <sup>3</sup>    |
| Fine Particulate Matter (PM <sub>2.5</sub> )      | Annual Arithmetic Mean  | 12 mg/m <sup>3</sup>          | 12.0 mg/m <sup>3</sup>   |
|   | 24 Hours                | –                             | 35 mg/m <sup>3</sup>     |
| Lead  | 3-Month Rolling Average | –                             | 0.15 mg/m <sup>3</sup>   |
| Hydrogen Sulfide                                  | 1 Hour                  | 0.03 ppm/42 µg/m <sup>3</sup> | –                        |
| Sulfates  | 24 Hours                | 25 mg/m <sup>3</sup>          | –                        |
| Vinyl Chloride                                    | 24 Hours                | 0.01 ppm/26 µg/m <sup>3</sup> | –                        |

NOTES:

– = no applicable standard; µg/m<sup>3</sup> = micrograms per cubic meter; mg/m<sup>3</sup> = milligrams per cubic meter; ppm = parts per million

SOURCE: CARB 2016

USEPA is responsible for implementing programs established under the federal CAA, such as establishing and reviewing the NAAQS and judging the adequacy of SIPs but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

### **State**

The California Air Resources Board (CARB) establishes and reviews the state standards, compiles the California SIP and secures approval of that plan from USEPA, conducts research and planning, and identifies TACs. CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality districts, which are organized at the county or regional level. County or regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans required under the federal and California CAAs.

Although the federal CAA established the NAAQS, individual states retained the option to adopt more stringent standards and to include other pollution sources. California already had established its own air quality standards when the NAAQS were established, and because of California's unique meteorological problems, there are considerable differences between most of the CAAQS and NAAQS, as shown in Table 3.4-3. Most of the CAAQS are at least as protective as the NAAQS and some are more stringent. In 1988, California enacted the California Clean Air Act (Health and Safety Code Section 39600 et seq.), which, like its federal counterpart, requires the designation of areas as attainment or non-attainment, but based these designations on the CAAQS rather than the NAAQS. The current attainment status for the SJVAB, with respect to the CAAQS, is summarized above and identified in Table 3.4-2.

### **Toxic Air Contaminants**

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill [AB] 2588) seeks to identify and evaluate risk from air toxics sources but does not directly regulate air toxics emissions. This law requires that TAC emissions from individual facilities be quantified and prioritized. "High-priority" facilities must perform a health risk assessment and, if specific thresholds are violated, must communicate the results to the public in the form of notices and public meetings. Depending on the risk levels, emitting facilities must implement varying levels of risk reduction measures. SJVAPCD implements AB 2588 through its Integrated Air Toxic Program and is responsible for prioritizing facilities that emit air toxics, reviewing health risk assessments, and implementing risk reduction procedures. Pursuant to the requirements of AB 2588, SJVAPCD publishes an air toxics emissions inventory that details the TAC emissions of facilities throughout the SJVAB (SJVAPCD 2017a).

### **Valley Fever**

On October 11, 2019, AB 203 was enacted to add Section 6709 to the Labor Code, related to occupational safety and health. This legislation requires construction employers engaging in specified work activities or vehicle operation in counties where Valley Fever is highly endemic,

as defined, to provide effective awareness training on Valley Fever to all employees annually and before an employee begins work that is reasonably anticipated to cause substantial dust disturbance. AB 203 requires that the training cover specific topics and authorizes the training to be included in the employer's injury and illness prevention program training or as a standalone training program. The training must include the following topics:

- (1) What Valley Fever is and how it is contracted.
- (2) High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest.
- (3) Personal risk factors that may create a higher risk for some individuals.
- (4) Personal and environmental exposure prevention methods.
- (5) The importance of early detection, diagnosis, and treatment to help prevent the disease from progressing.
- (6) Recognizing common signs and symptoms of Valley Fever.
- (7) The importance of reporting symptoms to the employer and seeking medical attention from a physician and surgeon for appropriate diagnosis and treatment.
- (8) Common treatment and prognosis for Valley Fever.

### **Local**

#### **San Joaquin Valley Air Pollution Control District**

The Project would be located within the jurisdiction of SJVAPCD, which regulates air pollutant emissions for all sources throughout the SJVAB other than motor vehicles. SJVAPCD administers permits governing stationary sources. In addition to administering permits, SJVAPCD enforces the rules, regulations, and plans described below, which would apply to the Project.

#### ***Air Quality Management Plans***

As required by the federal and California CAAs, air basins or portions thereof have been classified as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the standards have been achieved. Jurisdictions of non-attainment areas also must prepare an air quality management plan that includes strategies for achieving attainment. SJVAPCD has approved air quality management plans demonstrating how the SJVAB will reach attainment with the federal 1-hour and 8-hour ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> standards.

#### ***Ozone Attainment Plans***

The *Extreme 1-Hour Ozone Attainment Demonstration Plan*, adopted by the SJVAPCD Governing Board October 8, 2004, set forth measures and emission-reduction strategies designed to attain the federal 1-hour ozone standard by November 15, 2010. The 1-hour ozone standard was subsequently revoked by USEPA in June 2005. The *2013 Plan for the Revoked 1-Hour Ozone Standard* was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013)

to attain the 1-hour ozone standard by 2017. On July 18, 2016, USEPA published in the *Federal Register* the final action to determine that the SJVAB has attained the 1-hour ozone standard.

The *2007 Ozone Plan*, approved by CARB on June 14, 2007, demonstrates how the SJVAB would meet the federal 8-hour ozone standard. The *2007 Ozone Plan* includes a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. Additionally, this plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution, and an increase in state and federal funding for incentive-based measures to create adequate reductions in emissions to bring the entire SJVAB into attainment with the federal 8-hour ozone standard (SJVAPCD 2007).

On April 16, 2009, the SJVAPCD Governing Board adopted the *Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans* (SJVAPCD 2009). With respect to the 8-hour standard, the plan assesses SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (tpy) (due to the SJVAB's designation as an extreme ozone non-attainment area), evaluates SJVAPCD rules against new Control Techniques Guidelines promulgated since August 2006, and reviews additional rules and amendments adopted by the Governing Board since August 17, 2006, for reasonably available control technology consistency.

SJVAPCD adopted the *2016 Plan for the 2008 8-Hour Ozone Standard* in June 2016. This plan satisfies federal CAA requirements and ensures expeditious attainment of the 75 parts per billion 8-hour ozone standard. The intent of the plan is to reduce NO<sub>x</sub> emissions by more than 60 percent between 2012 and 2031, and to bring the SJVAB into attainment of USEPA's 2008 8-hour ozone standard as expeditiously as practicable, but no later than December 31, 2031 (SJVAPCD 2016a).

On May 19, 2020, the Governing Board adopted the *2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard* (SJVAPCD 2020), which includes a demonstration that SJVAPCD rules implement Reasonably Available Control Technology. The plan reviews each of the NO<sub>x</sub> reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed Reasonably Available Control Technology.

In December 2022, SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard*. This plan builds upon decades of developing and implementing effective air pollution control strategies. It ensures expeditious attainment of the 70 parts per billion 8-hour ozone standard and intends to reduce NO<sub>x</sub> emissions by 72 percent by 2037 (SJVAPCD 2022).

#### *Particulate Matter Attainment Plans*

Effective November 12, 2008, USEPA redesignated the SJVAB as an attainment area with respect to the PM<sub>10</sub> NAAQS and approved the *2007 PM<sub>10</sub> Maintenance Plan* (USEPA 2008). In April 2008, the SJVAPCD Board adopted the *2008 PM<sub>2.5</sub> Plan* and subsequently approved amendments on June 17, 2010 (SJVAPCD 2008). This plan was designed to address USEPA's annual PM<sub>2.5</sub> standard of 15 micrograms per cubic meter (µg/m<sup>3</sup>), which was established in 1997. In April 2015, the SJVAPCD Board adopted the *2015 Plan for the 1997 PM<sub>2.5</sub> Standard*. The plan addressed USEPA's annual and 24-hour PM<sub>2.5</sub> standards established in 1997, after the

SJVAB experienced higher PM<sub>2.5</sub> levels in winter 2013–2014 as a result of extreme drought, stagnation, strong inversions, and historically dry conditions. SJVAPCD was unable to meet the plan’s initial attainment date of December 31, 2015 (SJVAPCD 2015b).

SJVAPCD adopted the *2016 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard* on September 15, 2016. This plan addresses USEPA’s updated federal annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>, established in 2012, and includes an attainment impracticability demonstration and request for reclassification of the SJVAB from Moderate non-attainment to Serious non-attainment (SJVAPCD 2016b).

The *2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards* was adopted on November 15, 2018. The plan utilizes extensive science and research, state-of-the-art air quality modeling, and the best available information in developing a strategy to attain the federal health-based 1997, 2006, and 2012 standards for PM<sub>2.5</sub>. The plan consists of a combination of innovative regulatory and non-regulatory measures, including aggressive incentive-based control measures intended to achieve the emissions reductions needed to bring the area into attainment (SJVAPCD 2018).

### *Applicable Rules*

#### Rule 2201 (New and Modified Stationary Source Review Rule)

Rule 2201 requires review of new and modified stationary sources of air pollution, such as the Project’s proposed generators. The rule provides mechanisms such as emission trade-offs that will allow SJVAPCD to grant Authorities to Construct permits to emissions sources without interfering with the attainment or maintenance of ambient air quality standards. No net increase in emissions is permitted above specified thresholds from new and modified stationary sources of all non-attainment pollutants and their precursors.

#### Rule 4101 (Visibility)

Rule 4101 limits the visible plume from any source to 20 percent opacity.

#### Rule 4102 (Nuisance)

Rule 4102 prohibits the discharge of air contaminants or other materials in quantities that may cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of any such person or the public.

#### Rule 4601 (Architectural Coatings)

Rule 4601 limits emissions of volatile organic compounds (VOCs) from architectural coatings. This rule specifies requirements for architectural coatings storage, cleanup, and labeling.

#### Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations)

The purpose of Rule 4641 is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. The rule applies to the manufacture and use of cutback asphalt, slow-cure asphalt, and emulsified asphalt for paving and maintenance operations.

### Regulation VIII and Rule 8021 (Fugitive PM<sub>10</sub> Prohibitions)

Regulation VIII contains rules developed pursuant to USEPA guidance for serious PM<sub>10</sub> non-attainment areas. Rules included under this regulation limit fugitive dust PM<sub>10</sub> emissions from the following sources: construction, demolition, excavation, extraction, and other earthmoving activities, bulk materials handling, carryout and track-out, open areas, paved and unpaved roads, unpaved vehicle/equipment traffic areas, and agricultural sources. **Table 3.4-4** identifies the requirements projects must meet to comply with SJVAPCD Rule 8021 and **Table 3.4-5** identifies additional control measures that the Applicant would be required to implement during Project construction activities pursuant to Measure No. 5.2 of Rule 8021, *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*.

### Rule 9510 (Indirect Source Review)

Rule 9510 requires certain development projects to mitigate exhaust emissions from construction equipment greater than 50 horsepower to 20 percent below statewide average NO<sub>x</sub> emissions and 45 percent below statewide average PM<sub>10</sub> exhaust emissions. This rule also requires applicants to reduce baseline emissions of NO<sub>x</sub> and PM<sub>10</sub> emissions associated with operations by 33.3 percent and 50 percent, respectively, over a period of 10 years (SJVAPCD 2017b).

In addition to reducing a portion of the development project's impact on air quality through compliance with SJVAPCD Rule 9510, a developer can further reduce the project's impact on air quality by entering into a "Voluntary Emission Reduction Agreement," or VERA, with SJVAPCD to address any mitigation requirements under CEQA. Under a VERA, the developer may fully mitigate project emission impacts by providing funds to SJVAPCD, which then are used by SJVAPCD to administer emission reduction projects on behalf of the project proponent (SJVAPCD 2015c). Emission reduction projects funded by the VERA program include replacement of older equipment such as tractors for small-scale agriculture and other small business operations, and buses for school districts where equipment replacement otherwise would be prohibitively expensive. To determine emissions reductions credited to the VERA, SJVAPCD tracks each piece of equipment purchased with the VERA funds and the emissions reductions anticipated from the use of that equipment compared to the replaced older equipment. Those direct reductions are then credited to the VERA. No reductions are credited to the VERA until replacement equipment has been purchased with VERA funds.



**TABLE 3.4-4  
SJVAPCD RULE 8021 MEASURES OTHER THAN ADMINISTRATIVE AND DISTRICT NOTIFICATION  
REQUIREMENTS APPLICABLE TO THE PROJECT**

| No.   | Measure   |
|-------|---|
| 5.2   | A person shall control the fugitive dust emissions to meet the requirements in [SJVAPCD] Table 8021-1 [shown below as Table 3.4-5].   |
| 5.3.1 | An owner/operator shall limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.  |
| 5.3.2 | An owner/operator shall post speed limit signs that meet state and federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled unpaved access/haul roads.   |
| 5.4.1 | Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever visible dust emissions exceeds 20 percent opacity. Indoor activities such as electrical, plumbing, dry wall installation, painting, and any other activity that does not cause any disturbances to the soil are not subject to this requirement.  |
| 5.4.2 | Continue operation of water trucks/devices when outdoor construction excavation, extraction, and other earthmoving activities cease, unless unsafe to do so.  |
| 6.3.1 | An owner/operator shall submit a Dust Control Plan to the Air Pollution Control Officer prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Dust Control Plan. An owner/operator shall provide written notification to the Air Pollution Control Officer within 10 days prior to the commencement of earthmoving activities via fax or mail. The requirement to submit a dust control plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity.   |
| 6.3.3 | The Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during, and after any dust generating activity.   |
| 6.3.4 | A Dust Control Plan shall contain all the [administrative] information described in Section 6.3.6 of this rule. The Air Pollution Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan within 30 days of plan submittal. A Dust Control Plan is deemed automatically approved if, after 30 days following receipt by the District, the District does not provide any comments to the owner/operator regarding the Dust Control Plan.   |
| 6.3.6 | <p>A Dust Control Plan shall contain all of the following information:</p> <p>6.3.6.1 Name(s), address(es), and phone number(s) of person(s) and owner(s)/operator(s) responsible for the preparation, submittal, and implementation of the Dust Control Plan and responsible for the dust generating operation and the application of dust control measures.</p> <p>6.3.6.2 A plot plan which shows the type and location of each project.</p> <p>6.3.6.3 The total area of land surface to be disturbed, daily throughput volume of earthmoving in cubic yards, and total area in acres of the entire project site.</p> <p>6.3.6.4 The expected start and completion dates of dust generating and soil disturbance activities to be performed on the site.</p> <p>6.3.6.5 The actual and potential sources of fugitive dust emissions on the site and the location of bulk material handling and storage areas, paved and unpaved roads; entrances and exits where carryout/trackout may occur; and traffic areas.</p> <p>6.3.6.6 Dust suppressants to be applied, including: product specifications; manufacturer's usage instructions (method, frequency, and intensity of application); type, number, and capacity of application equipment; and information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application.</p> <p>6.3.6.7 Specific surface treatment(s) and/or control measures utilized to control material carryout, trackout, and sedimentation where unpaved and/or access points join paved public access roads.</p> <p>6.3.6.8 At least one key individual representing the owner/operator or any person who prepares a Dust Control Plan must complete a Dust Control Training Class conducted by the District. The District will conduct Dust Control Training Classes on an as needed basis.</p> |

NOTE: SJVAPCD = San Joaquin Valley Air Pollution Control District

SOURCE: SJVAPCD 2004

**TABLE 3.4-5  
 CONTROL MEASURE OPTIONS FOR CONSTRUCTION, EXCAVATION, EXTRACTION, AND OTHER EARTHMOVING  
 ACTIVITIES**

| <b>A Pre-Activity</b>   |   |
|---|---|
| A1  | Pre-water site sufficient to limit visible dust emissions to 20 percent opacity.  |
| A2  | Phase work to reduce the amount of disturbed surface area at any one time.  |
| <b>B During Active Operations</b>                             |   |
| B1  | Apply water or chemical/organic stabilizers/suppressants sufficient to limit visible dust emissions to 20 percent opacity; or   |
| B2  | Construct and maintain wind barriers sufficient to limit visible dust emissions to 20 percent opacity. If using wind barriers, control measure B1 above shall also be implemented.  |
| B3  | Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit visible dust emissions to 20 percent opacity and meet the conditions of a stabilized unpaved road surface.  |
| <b>C Temporary Stabilization During Periods of Inactivity</b> |   |
| C.1   | Restrict vehicular access to the area.  |
| C.2   | Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acre or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011. |

SOURCES: SJVAPCD 2004, SJVAPCD Table 8021-1

### ***Fresno County General Plan***

The Fresno County General Plan contains the following air quality goal and policies aimed at reducing air pollutant emissions from development projects, including the Project (Fresno County 2000):

**Goal OS-G:** To improve air quality and minimize the adverse effects of air pollution in Fresno County.

***Policy OS-G.13:*** The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVUAPCD’s particulate matter of less than ten (10) microns (PM<sub>10</sub>) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District’s Compliance Division.

***Policy OS-G 14:*** The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

***Policy OS-G.15:*** The County shall continue to work to reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions from County-maintained roads by considering shoulder treatments for dust control as part of road reconstruction projects.

### 3.4.2 Significance Criteria

The Project would result in a significant impact on air quality if it would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- c) Expose sensitive receptors to substantial pollutant concentrations; or
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

In addition to the air quality criteria above from Appendix G of the CEQA Guidelines, SJVAPCD’s *Guidance for Assessing and Mitigating Air Quality Impacts* includes one additional criterion. Consistent with SJVAPCD’s guidance, the Project would result in a significant impact on air quality if it would:

- e) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

For the evaluation of significance, the *Guidance for Assessing and Mitigating Air Quality Impacts* has established emissions-based thresholds of significance for criteria air pollutants (SJVAPCD 2015a), shown in **Table 3.4-6**. SJVAPCD recommends that lead agencies evaluate the significance of construction and operational impacts separately and provides separate significance thresholds for construction emissions and emissions from operational permitted and non-permitted equipment and activities. The operational thresholds of significance are relative to calendar-year, although construction emissions are assessed on a rolling 12-month period.

**TABLE 3.4-6  
SJVAPCD AIR QUALITY THRESHOLDS OF SIGNIFICANCE—CRITERIA AIR POLLUTANTS**

| Pollutant         | Construction Emissions (tons per year) | Operational Emissions (tons per year) |  |
|-------------------|--|---------------------------------------|--|
|                   |  | Permitted Equipment and Activities    | Non-permitted Equipment and Activities |
| CO                | 100                                    | 100                                   | 100                                    |
| NO <sub>x</sub>   | 10                                     | 10                                    | 10                                     |
| ROG               | 10                                     | 10                                    | 10                                     |
| SO <sub>x</sub>   | 27                                     | 27                                    | 27                                     |
| PM <sub>10</sub>  | 15                                     | 15                                    | 15                                     |
| PM <sub>2.5</sub> | 15                                     | 15                                    | 15                                     |

NOTES: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO<sub>x</sub> = oxides of sulfur

SOURCE: SJVAPCD 2015a

SJVAPCD has established thresholds of significance for combined TAC emissions from the operations of both permitted and non-permitted sources (SJVAPCD 2015a). If the Project would have the potential to expose the public to TACs with risks more than the following thresholds, it would be considered to have a significant air quality impact:

- Probability of contracting cancer for the maximally exposed individual equals or exceeds 20 in 1 million people.
- Hazard Index for acute and chronic non-carcinogenic TACs equals or exceeds 1 for the maximally exposed individual.

### 3.4.3 Direct and Indirect Effects

#### 3.4.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to this analysis of air quality.

#### 3.4.3.2 Methodology

##### ***Regional Air Quality***

To determine the significance of Project impacts on air quality, Project-related construction, operation and maintenance (O&M), and decommissioning emissions were estimated and compared to significance thresholds recommended in SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015a). Emissions generated from the Project were analyzed to determine whether they would conflict with applicable air quality plans. Detailed emission estimates and calculations of the Project are included in the air quality and greenhouse gas study prepared for the Project (see Appendix D1).

Project-related regional air quality impacts would fall into two categories: short-term impacts of construction and decommissioning, and long-term operational impacts. First, during Project construction (short-term), the Project would affect local particulate concentrations primarily from fugitive dust sources and diesel exhaust. Because there are two battery options for the Project, emissions from both scenarios were analyzed. Exhaust emissions from construction equipment and vehicles, as well as fugitive dust from ground disturbance and vehicle travel on paved and unpaved roads, were estimated using California Emissions Estimator Model Version 2022.1.0 (CalEEMod). Detailed information about the specific construction equipment and vehicle trips for each phase of construction, and the durations of the phases, is provided in Appendix D1.

Operational emissions including area, energy, and mobile-source emissions were also estimated using CalEEMod. Area sources include architectural coatings, consumer products, and landscape maintenance equipment. Energy consumption would include electricity used for temperature

control. Mobile sources would include motor vehicles (e.g., pickup trucks or light-duty trucks) traveling to and from the Project sites for maintenance visits. The details of assumptions and calculations used to determine Project-related operational emissions are included in Appendix D1.

Decommissioning activities would generate air pollutants from on-site sources (e.g., off-road equipment and soil disturbance) and off-site sources (e.g., on-road haul trucks, vendor trucks, and worker vehicle trips). Like the construction phase, decommissioning would be temporary. Emissions from the eventual decommissioning were modeled based on a 2-year use of the same equipment used during construction with the addition of extra graders.

SJVAPCD has also established screening criteria to determine whether a project would result in a CO hotspot at affected roadway intersections (SJVAPCD 2015a). If neither of the following criteria are met at any of the intersections affected by the Project, the Project would result in no potential to create a violation of the CO standard:

- A traffic study for the Project indicates that the level of service (LOS) on one or more streets or at one or more intersections in the Project vicinity would be reduced to LOS E or LOS F.
- A traffic study indicates that the Project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the Project vicinity.

SJVAPCD ensures that new and modified emission sources do not cause or contribute to an exceedance of an ambient air quality standard through Rule 2201 (SJVAPCD 2014b). It is recommended that an ambient air quality analysis be performed pursuant to the *Policy for District Rule 2201 AAQA Modeling* when emissions of any criteria pollutant during construction or operation would exceed 100 pounds per day. If emissions of one criteria pollutant exceeds the threshold, then all criteria pollutants are to be modeled. In the ambient air quality analysis, air pollutant concentrations are determined by conducting air dispersion modeling, adding the resulting concentrations to ambient background levels, and comparing to the applicable ambient air quality standard. The Project would be considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any CAAQS or NAAQS. If an exceedance of the CAAQS or NAAQS is predicted, modeled concentrations may be compared to significant impact levels to assess whether the Project's emissions would contribute significantly to an existing violation of the CAAQS or NAAQS.

### **Health Impacts**

The California Supreme Court published its decision in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (known as the "Friant Ranch" case), which held that CEQA requires that a connection be drawn between potential project emissions and human health impacts. The Court found that while there will be some scientific limits to the analytical tools available to draw and quantify these connections, the EIR "must adequately explain what the agency does know and why, given existing scientific constraints, it cannot translate potential health impacts further." The Court faulted the EIR in that case for "fail[ing] to indicate the concentrations at which [certain] pollutants would trigger identified symptoms." The Court concluded that "the public would have no idea of the health consequences that result when more pollutants are added to a nonattainment

basin.” The Court found that even if it were impossible to do more, the Friant Ranch EIR would have been found insufficient “because it failed to explain why it was not feasible to provide an analysis that connected the air quality effects to human health consequences.”

The SJVAPCD significance thresholds described above were set at emissions levels tied to the region’s attainment status relative to the NAAQS and CAAQS designed to protect public health. They are emissions levels at which stationary pollution sources permitted by SJVAPCD must offset their emissions and CEQA projects must use feasible mitigation measures; they are not intended to be indicative of any localized human health impact that a project may have. Therefore, a Project construction–related exceedance of the mass regional emissions threshold (i.e., lb/day or tpy thresholds) before mitigation could indicate that the Project could cause or contribute to the exposure of sensitive receptors to ground-level concentrations greater than health-protective levels.

As described in the *Guidance for Assessing and Mitigating Air Quality Impacts*, given the subjective nature of odor impacts, SJVAPCD does not have adopted quantitative thresholds to determine whether potential odors would have a significant impact (SJVAPCD 2015a).

SJVAPCD identifies some common types of facilities that are known to produce substantial odors and provides recommended screening distances between those odor sources and receptors. Odor sources identified by SJVAPCD include wastewater treatment facilities, sanitary landfills, transfer stations, composting facilities, petroleum facilities, asphalt batch plants, chemical and fiberglass manufacturing facilities, painting/coating operations, food processing facilities, feed lots/dairies, and rendering plants. The recommended screening distance is 1 mile between the odor sources and receptors, except for wastewater treatment facilities and petroleum facilities, for which a screening distance of 2 miles is recommended (SJVAPCD 2015a). Because the Project would not include one or more of the identified odor sources, odor impacts that would be associated with the Project are assessed qualitatively.

### 3.4.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would conflict with or obstruct implementation of the applicable air quality plan.

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#### **Impact 3.4-1: Criteria pollutant emissions generated by Project construction, operation, and decommissioning would not conflict with SJVAPCD’s air quality plans. (*Less-than-Significant Impact*)**

Construction, O&M, and decommissioning and site restoration activities associated with the Project would result in emissions of criteria pollutants and ozone precursors such as ROG and NO<sub>x</sub> as well as particulate matter, which are pollutants for which the SJVAB is designated as non-attainment. SJVAPCD has prepared several air quality attainment plans to achieve ozone and particulate matter standards, the most recent of which are the *2020 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan, 2013 Plan for the*

*Revoked 1-Hour Ozone Standard, 2007 PM<sub>10</sub> Maintenance Plan and Request for Redesignation, 2012 PM<sub>2.5</sub> Plan, 2015 Plan for the 1997 PM<sub>2.5</sub> Standard, and 2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards.* The SJVAB is in attainment for CO, SO<sub>2</sub>, and lead, so there are no air quality plans for those pollutants.

SJVAPCD has determined that projects that generate emissions below its CEQA thresholds of significance for criteria pollutants and ozone precursors would not conflict or obstruct implementation of the applicable SJVAPCD air quality plans (SJVAPCD 2015a). A project would not conflict or obstruct a SJVAPCD air quality plan if it complies with all applicable SJVAPCD rules and regulations, complies with all applicable proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan) (SJVAPCD 2015a).

The Project would be required to comply with applicable SJVAPCD rules and regulations, such as Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions) and Rule 9510 (Indirect Source Review), which are summarized in Section 3.4.1.3, *Regulatory Setting*. The Project would result in a minor increase in long-term trips that would have a negligible increase in overall vehicle miles traveled in the area. Haul truck, vendor truck, and worker vehicle trips generated during the proposed construction activities would be short-term and would cease after construction is completed, then additional trips would occur during decommissioning at the end of the Project's life span. As discussed below under Impact 3.4-2, maximum annual emissions generated during Project construction and decommissioning would not exceed SJVAPCD's annual thresholds, and would therefore result in a less-than-significant impact associated with a potential conflict with SJVAPCD's air quality attainment plans.

During the longer-term operational phase, the Project would have routine inspection and maintenance activities that would result in a net increase in emissions. However, as discussed under Impact 3.4-2, the increase in emissions would not exceed any significance threshold or violate any SJVAPCD rule or regulation and would be consistent with SJVAPCD's air quality attainment plans for PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone. Based on these considerations, O&M activities associated with the Project would not conflict with or obstruct implementation of SJVAPCD's air quality plans, and the associated impact would be less than significant.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would 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.

**Criterion e)** Whether the Project would violate any air quality standard or contribute substantially to an existing or projected air quality violation (SJVAPCD threshold).

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**Impact 3.4-2: Project activities would generate emissions that would not contribute to violations of ambient air quality standards. (*Less-than-Significant Impact*)**

Construction and decommissioning activities associated with the Project are described in detail in Sections 2.5.6 and 2.5.8, respectively, of Chapter 2, *Project Description*, and would generate emissions of both criteria air pollutants and ozone precursors.

**Construction and Decommissioning**

Construction activities for both battery scenarios were modeled to occur over a period of approximately 6 years starting in 2024. Project construction emissions would be generated by on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions, and by off-site sources such as construction worker daily commute trips and vendor truck trips. The Project would comply with SJVAPCD Rule 8021 to control fugitive dust emissions generated during grading activities as an independent obligation of the Project owner enforceable by SJVAPCD. SJVAPCD Rule 8021 measures that would apply to the Project are listed in Tables 3.4-4 and 3.4-5. After the completion of construction, each phase of the Project would be expected to remain in operation for 30 years. Maximum annual Project construction and decommissioning emissions, as estimated using CalEEMod, are summarized in **Table 3.4-7** and compared to SJVAPCD's annual construction thresholds.

As shown in Table 3.4-7, maximum annual Project construction and decommissioning emissions for both battery scenarios would not exceed SJVAPCD's significance thresholds for criteria pollutants and ozone precursors. Accordingly, the 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, and the Project would result in a less-than-significant impact associated with its temporary increase in emissions of non-attainment pollutants during construction.

**Operation and Maintenance**

Long-term Project emissions would be associated primarily with weekly O&M worker vehicle trips and an annual extended maintenance program. Electricity from PG&E's power grid would provide energy required for temperature control and maintenance for the batteries. The Project's operational emissions were estimated using CalEEMod. Total estimated maximum annual operational emissions of ROG, NO<sub>x</sub>, CO, oxides of sulfur (SO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub> for each of the battery options would be less than 1 tpy (see Table 6 of Appendix D1).

Project O&M would generate emissions that would be well below SJVAPCD's significance thresholds for criteria pollutants identified in Table 3.4-6. Accordingly, the Project would result in a less-than-significant impact associated with the long-term increase in emissions of non-attainment pollutants. Therefore, consistent with SJVAPCD guidance, the Project would not result in a cumulatively considerable net increase of any criteria pollutant during operation or maintenance for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.



**TABLE 3.4-7  
MAXIMUM ANNUAL CONSTRUCTION AND DECOMMISSIONING EMISSIONS**

| Max. Rolling 12-Month Period                    | Annual Emissions (tons per year) |                 |     |                 |                  |                   |
|---|----------------------------------|-----------------|-----|-----------------|------------------|-------------------|
|   | ROG                              | NO <sub>x</sub> | CO  | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <b>Lithium-Ion Battery Option</b>               |                                  |                 |     |                 |                  |                   |
| 2024  | 1                                | 6               | 7   | <1              | <1               | <1                |
| 2025  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2026  | 1                                | 4               | 5   | <1              | <1               | <1                |
| 2027  | 1                                | 5               | 5   | <1              | <1               | <1                |
| 2028  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2029  | <1                               | 4               | 4   | <1              | <1               | <1                |
| Decommissioning                                 | <1                               | 4               | 6   | <1              | <1               | <1                |
| Maximum   | 1                                | 6               | 7   | <1              | <1               | <1                |
| Threshold                                       | 10                               | <b>10</b>       | 100 | 27              | 15               | 15                |
| Exceed Threshold?                               | No                               | No              | No  | No              | No               | No                |
| <b>Lithium-Ion and Iron-Flow Storage Option</b> |                                  |                 |     |                 |                  |                   |
| 2024  | 1                                | 5               | 6   | <1              | <1               | <1                |
| 2025  | 1                                | 5               | 6   | <1              | <1               | <1                |
| 2026  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2027  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2028  | <1                               | 5               | 5   | <1              | <1               | <1                |
| 2029  | <1                               | 2               | 2   | <1              | <1               | <1                |
| Decommissioning                                 | <1                               | 4               | 6   | <1              | <1               | <1                |
| Maximum   | 1                                | 5               | 6   | <1              | <1               | <1                |
| Threshold                                       | 10                               | <b>10</b>       | 100 | 27              | 15               | 15                |
| Exceed Threshold?                               | No                               | No              | No  | No              | No               | No                |

NOTES: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO<sub>x</sub> = oxides of sulfur

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Table 5 of Appendix D1)

## Health Effects

The health effects associated with emissions of criteria pollutants are described above under the *Criteria Air Pollutants* discussions in Section 3.4.1.2, *Regional Topography, Meteorology, and Climate*. The primary health concern with exposure to ROG and NO<sub>x</sub> emissions is the secondary formation of ozone. Given the complexity of ozone formation and the current state of environmental science modeling, it is infeasible and would be speculative to determine whether—or the extent to which—a single project’s ozone precursor (ROG and NO<sub>x</sub>) emissions would result in the formation of secondary ground-level ozone, and the geographic and temporal distribution of such secondary formed emissions (SCAQMD 2014; SJVAPCD 2014a). Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone. Furthermore, available

models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO<sub>x</sub> or ROG emissions from a local-level project. Therefore, it is currently infeasible to connect ROG or NO<sub>x</sub> emissions associated with a project to ozone-related health impacts. However, compliance with the ambient air quality standards indicates that regional air quality can be considered protective of public health (see Section 3.4.3.2, *Methodology*, under *Health Impacts*).

As described above, Project construction, O&M, and decommissioning would not generate emissions that would exceed SJVAPCD’s annual emissions thresholds for any of the air pollutants. Further, SJVAPCD recommends that the Project be evaluated for potential health impacts on surrounding receptors that would result from operational and multi-year construction if emissions exceed 100 lb/day of any pollutant, which would require an ambient air quality analysis (SJVAPCD 2015a). **Table 3.4-8** presents maximum daily Project emissions associated with construction and decommissioning of each of the battery options. As shown, maximum daily emissions from construction and decommissioning would be below the daily screening threshold of 100 lb/day regardless of the battery option. The maximum daily Project emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> associated with O&M of each of the battery options would each be less than 1 pound (see Table 8 of Appendix D1).

**TABLE 3.4-8  
 MAXIMUM DAILY CONSTRUCTION AND DECOMMISSIONING EMISSIONS**

| Max. Rolling 12-Month Period                    | Annual Emissions (pounds per day) |                 |     |                 |                  |                   |
|---|-----------------------------------|-----------------|-----|-----------------|------------------|-------------------|
|   | ROG                               | NO <sub>x</sub> | CO  | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <b>Lithium-Ion Battery Option</b>               |                                   |                 |     |                 |                  |                   |
| Phase 1   | 10                                | 87              | 97  | <1              | 12               | 7                 |
| Phase 2   | 5                                 | 33              | 46  | <1              | 2                | 1                 |
| Phase 3   | 4                                 | 19              | 46  | <1              | 2                | 1                 |
| Phase 4   | 4                                 | 36              | 50  | <1              | 2                | 1                 |
| Decommissioning                                 | 4                                 | 28              | 49  | <1              | 4                | 1                 |
| Maximum   | 10                                | 87              | 97  | <1              | 12               | 7                 |
| Threshold                                       | 100                               | <b>100</b>      | 100 | 100             | 100              | 100               |
| Exceed Threshold?                               | No                                | No              | No  | No              | No               | No                |
| <b>Lithium-Ion and Iron-Flow Storage Option</b> |                                   |                 |     |                 |                  |                   |
| Phase 1   | 10                                | 86              | 96  | <1              | 12               | 7                 |
| Phase 2   | 4                                 | 32              | 48  | <1              | 2                | 1                 |
| Phase 3   | 5                                 | 45              | 58  | <1              | 4                | 2                 |
| Decommissioning                                 | 3                                 | 28              | 49  | <1              | 4                | 1                 |
| Maximum   | 10                                | 86              | 96  | <1              | 12               | 7                 |
| Threshold                                       | 100                               | <b>100</b>      | 100 | 100             | 100              | 100               |
| Exceed Threshold?                               | No                                | No              | No  | No              | No               | No                |

NOTES: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO<sub>x</sub> = oxides of sulfur

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Table 7 of Appendix D1)

Because the maximum daily emissions would be below the screening threshold for an ambient air quality analysis, the Project would not contribute to local exceedances of the NAAQS or the CAAQS. As mentioned, these standards are established at health-protective levels and include an adequate margin of safety. Therefore, Project construction, O&M, and decommissioning would not be anticipated to result in an adverse health effect with respect to emissions of criteria air pollutants. For additional impact analysis relative to sensitive receptor exposure to Project-generated DPM and CO emissions, see Impact 3.4-3; and for additional impact analysis relative to sensitive receptor exposure to Project-generated fugitive dust emissions, see Impact 3.3-4.

Because the Project would not exceed SJVAPCD thresholds, the potential health impacts associated with criteria air pollutants would be less than significant.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would expose sensitive receptors to substantial pollutant concentrations.

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Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems leading to health impacts arise when the rate of pollutant emissions exceeds the rate of dispersion. As discussed previously, some land uses are more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Potential harmful airborne pollutants that could be generated by the Project are TACs, CO, and spore-containing fugitive dust that can cause Valley Fever. Therefore, each of these is addressed under this criterion with respect to the Project.

**Impact 3.4-3: The Project could expose sensitive receptors to substantial pollutant concentrations. (*Less-than-Significant Impact*)**

#### **Toxic Air Contaminants**

In addition to criteria pollutants, SJVAPCD regulated non-criteria pollutants such as hazardous air pollutants or TACs. A project that results in an increased cancer risk equal to or greater than 20 in 1 million for the Maximally Exposed Individual (MEI) could be considered to have a significant health impact on sensitive receptors (SJVAPCD 2015d). The threshold for Acute and Chronic Non-Carcinogens is a Hazard Index equal to or greater than 1 for the MEI (SJVAPCD 2015d).

Typically, emissions of PM<sub>10</sub> exhaust are used as a surrogate for DPM emissions in health risk calculations. As discussed above under Impact 3.4-2, total PM<sub>10</sub> emissions from construction, operation, and decommissioning would be well below SJVAPCD's significance thresholds for criteria pollutants. Given the substantial distance to the nearest sensitive receptors to the Project site (more than 3,000 feet), it is reasonable to expect that health risk impacts associated with the

Project's construction emissions would be below SJVAPCD's significance thresholds. In addition, Project construction and decommissioning activities are expected to be sporadic, transitory, and short-term, and are not anticipated to increase risk to the nearest sensitive receptors upwind of the Project site (Appendix D1). The associated impact from exposure of sensitive receptors to DPM would be less than significant.

### **Carbon Monoxide**

Exposure to high concentrations of CO can result in dizziness, fatigue, chest pain, headaches, and impairment of central nervous system functions. The SJVAB is currently an attainment area for CO; however, the potential exists for micro-scale CO "hotspots" to form immediately around points of congested traffic. Hotspots can form if such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and/or is operating on roadways crowded with non-Project traffic.

As discussed previously, SJVAPCD's Impact Assessment Guide uses the LOS approach to screen for intersections and streets that could experience CO hotspots. Because ambient CO concentrations in the Project area are well below the NAAQS and CAAQS, it is unlikely that the addition of Project construction, O&M, or decommissioning traffic would lead to exceedances of the standards. The Project's traffic analysis (Section 3.18, *Transportation*) did include an evaluation of LOS for roadway segments and intersections and found that all four study intersections along West Jayne Avenue would operate acceptably (i.e., LOS D or better) with the addition of vehicle trips generated by the Project. Traffic would temporarily increase during construction and decommissioning, but the addition of Project construction and decommissioning traffic would not result in potential CO hotspots and associated health effects on receptors. Project-related operational traffic would add up to 16 trips per day to the vicinity during annual maintenance and would therefore result in a less-than-significant impact with respect to potential for CO hotspots.

**Mitigation:** None required.

### **Impact 3.4-4: Project construction and decommissioning activities could expose sensitive receptors to the risk of contracting Valley Fever. (*Less-than-Significant Impact*)**

Construction activities that include ground disturbance can result in fugitive dust, which can cause fungus *Coccidioides* spores to become airborne if they are present in the soil. The fungus grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. In susceptible people and animals, infection occurs when a spore is inhaled.

Workers who disturb soil where fungal spores are found, whether by digging, operating earthmoving equipment, driving vehicles, or working in dusty, wind-blown areas, are more likely to breathe in spores and become infected. Valley Fever is not a contagious disease, and secondary infections are rare. Most cases of Valley Fever are mild and symptoms generally occur within 3 weeks of exposure. It is estimated that 60 percent or more of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. However, in about 5 percent of cases, Valley Fever spreads outside the lungs to affect other body parts (e.g., joints,

bones, brain, skin, or other organs) and, in extreme cases (usually among patients with compromised immune systems), can cause death.

Given the endemic nature of the disease and the amount of earthmoving activities in Fresno County for agricultural activities and grading and excavation for new residential, commercial, and industrial development, it is typically not possible to attribute any one case of Valley Fever to a specific earthmoving activity. However, it is likely that much of the population (human and wildlife) of Fresno County has already been exposed to Valley Fever as a result of historic and ongoing earthmoving activities and current levels of fugitive dust throughout the region. Such ground-disturbing activities represent a continual source of spores that contribute to the relatively low number of Valley Fever cases reported each year (Fresno County 2023a). Construction and decommissioning activities for the Project would result in localized ground-disturbing activities similar to those that continually occur within the county.

According to the CDPH and the CDC, avoiding working in soils and dusty conditions is the best preventive measure. Because some construction and decommissioning workers cannot avoid participating in soil disturbance activities, minimization of fugitive dust and other engineering controls become the primary preventive measures. Pursuant to AB 203, the Applicant would be required to provide effective awareness training on Valley Fever to all employees annually and before an employee begins work that could reasonably be anticipated to cause substantial dust disturbance. In addition, the CDPH Occupational Health Branch and the CDC make recommendations for the protection of workers. The primary protection measures relate to worker training, dust suppression, and personal protective equipment. With respect to dust suppression, SJVAPCD Rule 8021 would require the Project to reduce visible dust emissions to less than 20 percent opacity.

Because ground disturbance in Fresno County is ongoing and the Project would implement fugitive dust control measures consistent with SJVAPCD Rule 8021, and because independently enforceable protections of worker safety and health are in place, the risk is low that fugitive dust generated by the Project would cause substantial adverse effects on human beings. Implementation of the required fugitive dust control measures such as those identified in Tables 3.4-4 and 3.4-5 would ensure that fugitive dust that could contain and appropriately control *Coccidioides immitis* spores. Compliance with the requirements of AB 203 and SJVAPCD Rule 802 would ensure that Valley Fever-related impacts on construction workers would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

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**Impact 3.4-5: The Project would generate odor or dust emissions. (*Less-than-Significant Impact*)**

**Odors**

Vehicle and equipment diesel exhaust emissions would generate odors during Project construction and decommissioning, attributable to concentrations of unburned hydrocarbons from tailpipes. These odors would be temporary and localized and would not carry over beyond the Project site boundaries. Therefore, odors associated with construction would not result in a nuisance to sensitive receptors or any surrounding land uses, and the associated impact would be less than significant.

During Project operation, the Project would not introduce any potential sources of odors beyond the use of vehicles for routine inspection and maintenance. O&M activities would be minimal and would not result in substantial odors. Therefore, operational odor impacts would also be less than significant.

**Dust**

Dust generated during construction can vary substantially from day to day, depending on prevailing weather conditions. Construction of the Project would generate fugitive dust stirred up by vehicles traveling on roads, dust from construction activities, emissions from off-road equipment and construction vehicles, and windblown dust from open lands. Entrained dust would also result from the exposure of unpaved surfaces to wind from the direct disturbance and movement of soil, resulting in PM<sub>10</sub> and PM<sub>2.5</sub> emissions. As discussed in Impact 3.4-2, maximum annual and daily construction emissions would not exceed SJVAPCD's annual significance thresholds or daily screening thresholds for PM<sub>10</sub> or PM<sub>2.5</sub>, which are designed to identify the potential for a deterioration of ambient air quality that could affect public health.

The Project would be required to comply with SJVAPCD Rule 8021 to control dust emissions generated during grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of active sites to maintain acceptable levels of dust generation, covering haul trucks, and minimizing grading and soil movement when winds exceed 30 miles per hour. In addition, Regulation VIII would require the Applicant to prepare a dust control plan, and all applicable control measures would be fully implemented. SJVAPCD Rule 4101 enforces dust suppression and would require that the Project reduces visible dust emissions to less than 20 percent opacity. Therefore, dust impacts on sensitive receptors during Project construction and decommissioning would be less than significant.

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's

construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to a conflict with or to the obstruction of implementation of the applicable air quality plan; generation of any criteria pollutant for which the Project region is non-attainment; exposure of sensitive receptors to substantial pollutant concentrations; and resulting in other emissions adversely affecting a substantial number of people.

**Mitigation:** None required.

### 3.4.4 Cumulative Effects Analysis

The potential for the Project or an alternative to cause or contribute to a potential significant cumulative impact with respect to air quality is evaluated below.

**Impact 3.4-6: The Project's criteria pollutant emissions would not be a cumulatively considerable contribution to a significant cumulative effect due to a conflict with SJVAPCD's air quality plans. (*Less-than-Significant Impact*)**

The geographic scope considered for potential cumulative impacts on air quality is the SJVAB, which is governed by SJVAPCD. The SJVAB currently is classified as non-attainment for the 1-hour state ozone standard and for the federal and state 8-hour ozone standards. Additionally, the SJVAB is classified as non-attainment for the state 24-hour and annual arithmetic mean PM<sub>10</sub> standards and the state annual arithmetic mean and national 24-hour PM<sub>2.5</sub> standards (SJVAPCD 2023). Therefore, there is an existing adverse cumulative impact in the SJVAB relative to these pollutants.

The contribution of a project's individual air pollutant emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from past, present, and reasonably foreseeable future projects in the study area also have contributed or will contribute to adverse regional air quality conditions on a cumulative basis. None of the single projects in the cumulative scenario, by itself, would be sufficient in size to result in non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality conditions. While a significant cumulative air quality impact exists in regions where air pollutants exceed the state and/or federal standards, the project-level thresholds for criteria air pollutants are based on levels that when not exceeded, new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. As discussed above, the Project would not conflict with or obstruct implementation of SJVAPCD's air quality plans; thus, this cumulative impact would be less than significant.

**Mitigation:** None required.

**Impact 3.4-7: The Project's generation of emissions would not contribute to a significant adverse cumulative impact due to violations of ambient air quality standards. (*Less-than-Significant Impact*)**

Project emissions of pollutants for which the SJVAB is in attainment for state and federal air quality standards (e.g., CO and SO<sub>x</sub>) would not lead to a cumulative impact because the individual Project emissions would be well below the SJVAPCD thresholds in an area where there is no existing adverse cumulative impact associated with those pollutants. Maximum annual emissions for criteria pollutants generated during Project construction and decommissioning would be below SJVAPCD's annual significance thresholds and daily screening thresholds, which would not result in a potentially significant cumulative impact. Therefore, the Project's incremental contribution to the cumulative condition in the region during construction and decommissioning would not be cumulatively considerable and the associated cumulative impact would be less than significant.

Project operation would include very minimal emissions of ozone precursors (ROG and NO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>, well below SJVAPCD's thresholds; therefore, O&M would not result in a cumulatively considerable increase in emissions of non-attainment pollutants and the associated cumulative impact would be less than significant.

**Mitigation:** None required.

**Impact 3.4-8: The Project would not cause or contribute to a significant cumulative impact due to exposure of sensitive receptors to substantial pollutant concentrations. (*Less-than-Significant Impact*)**

SJVAPCD considers TAC emissions to be localized impacts. SJVAPCD has established thresholds of significance for TACs that are conservative and protective of health impacts on sensitive receptors. Because impacts from TACs are localized and the thresholds of significance for TACs have been established at such a conservative level, Project risks over the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015a). As discussed in Impact 3.4-3, the Project site is more than 3,000 feet away from the nearest sensitive receptor, and thus the Project would not increase risks to those sensitive receptors. Therefore, the contribution of the Project to the cumulative impact related to exposure to TACs would not be cumulatively considerable, and the cumulative impact would be less than significant.

Although there is an existing adverse cumulative Valley Fever impact in the SJVAB, implementation of fugitive dust control measures by the Project and other projects under construction in the area consistent with SJVAPCD Regulation VIII and Rule 8021 would reduce exposure to *Coccidioides immitis* spores that cause Valley Fever. In addition, the Applicant would be required to ensure that all independently enforceable protections of worker safety and health associated with AB 203 are in place and implemented. The Project's incremental contribution to cumulative Valley Fever-related impacts would be less than significant.

SJVAPCD also considers cumulative CO impacts to be accounted for in a CO hotspot analysis (SJVAPCD 2015a). As discussed under Impact 3.4-3, construction-related traffic is not



anticipated to create or contribute to a CO hotspot, as there are no existing CO hotspots in the Project vicinity, and Project emissions would not be concentrated and would disperse rapidly. Therefore, impacts on sensitive receptors regarding potential CO hotspots resulting from the Project's contribution to cumulative traffic-related air quality impacts would be less than significant.

**Mitigation:** None required.

**Impact 3.4-9: The Project would not cause or contribute to a significant adverse cumulative impact due to the generation of odor or dust emissions. (*Less-than-Significant Impact*)**

The Project could contribute to a cumulative impact related to dust impacts. However, the Project and other projects under construction in the SJVAB would be required to comply with SJVAPCD Rule 8021 to control dust emissions generated during grading activities. In addition, the Project and other projects would comply with Regulation VIII, which requires a dust control plan and full implementation of all applicable control measures. Therefore, the Project's incremental contribution to cumulative dust impacts would be less than significant. Odor impacts from the Project would be very minimal and localized, which would not contribute to cumulative odor impacts in the area. Cumulative odor impacts associated with the Project would be less than significant.

**Mitigation:** None required.

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## 3.5 Biological Resources

This section identifies and evaluates issues related to all of the following: Species protected by local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS); riparian habitat or other specified sensitive natural communities; federally protected wetlands; native, resident or migratory fish or wildlife species, wildlife corridors, and native wildlife nursery sites; and adopted federal, state, regional, or local habitat conservation plans (HCPs). The section describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping input from CDFW. The specific input received was related to special-status species, recommended habitat assessments, regulatory obligations, and impacts of pesticide use. A copy of the letter is provided in Exhibit E of **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the site-specific, Project-specific biological resources technical report prepared on the Applicant's behalf (**Appendix E**, *Biological Resources*) and associated technical surveys; and data sets from the California Natural Diversity Database (CNDDDB) (CDFW 2023) and USFWS (2023). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR.

### 3.5.1 Setting

#### 3.5.1.1 Study Area

The Project site is located in the San Joaquin Valley in the Avenal and Gujarral Hills, California, 7.5-minute U.S. Geological Survey quadrangles. The Project site is located southwest of the Pacific Gas and Electric Company (PG&E) Gates Substation along West Jayne Avenue in unincorporated Fresno County, approximately 11.5 miles east of the city of Coalinga, 7.5 miles north of the city of Avenal, and approximately 1,700 feet northeast of Interstate 5 (I-5) at the closest point. The Project would be developed on up to 260 acres within a 318-acre site comprising three parcels: Assessor's Parcel Numbers [APNs] 085-040-58, 085-040-36, and 085-040-37. Adjacent land uses consist of agricultural fields in all directions, a solar field directly to the west, and a substation to the north (Appendix E). This analysis of potential impacts on biological resources evaluates all areas within the 318-acre site.

#### 3.5.1.2 Environmental Setting

The Project site supports four land cover types: active agriculture, orchard, fallow, and tailwater basins (irrigation ponds), as shown in Figure 3 (Appendix E). No natural vegetation communities occur on the Project site. Compacted dirt roads border and separate each land cover type and are likely used for agricultural maintenance activities (Appendix E).

### **Natural Communities**

Active agricultural land is present in the northern portion of the site, which was supporting pistachio saplings at the time of the baseline biological resource surveys. The central portion of the site supports an orchard containing mature citrus trees. The southern portion supports fallow cropland that the baseline surveys found to have been recently disked. A tailwater basin at the eastern edge of the site contains two small irrigation ponds, which were dry at the time of the surveys (Appendix E). Native vegetation is minimal other than cultivated crops; vegetation exists mainly within the margins of agricultural fields and within two tailwater basins used for irrigation. No sensitive plant communities are located within the Project site and no regional wildlife linkages or corridors are mapped within the site (Appendix E).

### **Special-Status Species**

Species known to occur at or in the regional vicinity are protected by federal and/or State endangered species laws or have been designated as Species of Special Concern by CDFW. In addition, Section 15380(b) of the CEQA Guidelines includes rare plants; vascular plants on California Native Plant Society Rare Plant Ranking (CRPR) List 1 or 2 are considered to meet Section 15380(b) requirements. Species recognized under these terms are collectively referred to as *special-status species*.

A list of special-status species with potential to occur in the regional vicinity was compiled from the following sources: a nine-quad search of the California Natural Diversity Database (CDFW 2023a), a nine-quad search on the California Native Plant Society's (CNPS) Rare Plant Inventory (CNPS 2023), a Project footprint search from the U.S. Fish and Wildlife Service IPaC database (USFWS 2023), and biological literature of the region for Avenal and Gujarral Hills and the surrounding 7.5-minute USGS topographic quadrangles (**Table 3.5-1**).

### **Special-status Plants**

Based on the literature review and seasonally timed rare-plant surveys conducted for the Project (Appendix E), no rare plants were observed, nor were any found to have potential to occur on-site. The entire site is subject to disturbance from agriculture, disking, and related activities. Only small patches of ruderal vegetation persist (Appendix E).

### **Special-status Wildlife**

Special-status wildlife species that have been identified as having potential to occur on or near the Project site include San Joaquin kit fox, western burrowing owl, northern harrier, loggerhead shrike, tricolored blackbird, and Swainson's hawk (see Table 3.5-1). The Project site provides low-quality burrowing or nesting habitat for most species due to frequent disking, but gophers and other rodents may inhabit agricultural fields, providing suitable foraging habitat for raptors, foxes, and other predatory species.

Northern harrier was observed during the biological resource surveys (Appendix E). Swainson's hawk, loggerhead shrike, and burrowing owl have potential to roost or nest on the edges of the site and forage on-site, along with other raptor and nesting bird species. A tricolored blackbird

nesting colony is not present but the species may forage on-site. The potential for all considered species to occur is presented in Table 3.5-1.

### **Swainson's Hawk**

Swainson's hawk (*Buteo swainsoni*) is state listed as threatened. In California, this species nests in the Central Valley, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in stands with few trees in riparian areas, agricultural environments, oak savanna, and juniper-sage flats (Zeiner et al. 1990). Swainson's hawks forage in adjacent grasslands or livestock pastures. In the Central Valley, they nest in riparian areas and in isolated tree clusters, often near rural residences or agricultural fields, and on structures such as power poles. Swainson's hawk historically occupied much of the state, but the species' range is now largely restricted to the Central Valley, and breeding populations in this area have declined in association with the loss of suitable foraging and nesting habitat.

No documented occurrences of nesting Swainson's hawks are located within 5 miles of the Project site; however, a single transitory Swainson's hawk was observed in the vicinity during burrowing owl surveys conducted in March 2022. Between 2005 and 2016, 10 documented nests were reported within 10 miles of the Project site, at distances ranging from approximately 5.5 miles to 9.5 miles (CDFW 2023; Appendix E). This species typically prefers to nest within a grove or lines of trees, but Swainson's hawks are known to nest in smaller trees and isolated trees when higher quality nesting habitat is absent. Marginally suitable nesting habitat for Swainson's hawk is present within 0.5-mile on power poles or other structures. Habitat within 0.5-mile consists primarily of orchards and active agriculture, which likely do not provide suitable nesting habitat, due to ongoing disturbance.

Suitable foraging habitat for Swainson's hawk is present in the agricultural and fallow portions of the Project site; however, because of the openness and lack of vegetative cover for prey, the site is considered low-quality foraging habitat.

### **Tricolored Blackbird**

Tricolored blackbird (*Agelaius tricolor*) is a state threatened species. This is a colonial species that nests in dense vegetation in and around freshwater wetlands. When nesting, tricolored blackbirds generally require freshwater wetland areas large enough to support colonies of 50 pairs or more. They prefer freshwater emergent wetlands with tall, dense cattails or tules for nesting, but they also will nest in thickets of willow, blackberry, wild rose, or tall herbs, and sometimes in agricultural lands. During the nonbreeding season, flocks are highly mobile and forage in grasslands, croplands, and wetlands (Zeiner et al. 1990).

The closest reported occurrence of tricolored blackbird is from 2007 and was identified 4.3 miles southeast of the Project site (CDFW 2023). Suitable nesting habitat is not present within the tailwater basins on the eastern edge of the site, given the basins' irregular water levels from agricultural practices. Additionally, appropriate emergent vegetation was not observed within the basins during reconnaissance surveys. Suitable foraging habitat is present on the Project site, as this species is an opportunistic forager of a variety of prey items in agricultural areas. No tricolored blackbirds were observed during the field surveys (Appendix E).

### **Burrowing Owl**

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern and a USFWS Bird of Conservation Concern. In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats, and in the grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). This species' preferred habitat is generally short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils. Burrowing owls require burrows for nesting, roosting, cover, and catching of prey.

In California, western burrowing owls most commonly live in burrows created by California ground squirrels (*Otospermophilus beecheyi*). Burrowing owls may occur in disturbed landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures with suitable open, sparse vegetation; areas where usable burrows are present; and locations with foraging habitat nearby. Debris piles, riprap, culverts, and pipes may be used as burrows. Although burrowing owl has experienced population reduction over the extent of its range, the species' range remains wide and the Central Valley population has remained sizable, largely because of its ability to occupy agricultural lands and other disturbed habitats (Shuford and Gardali 2008).

During both nonbreeding- and breeding-season surveys, no burrowing owls were observed at the Project site. No burrows large enough to accommodate burrowing owl were detected and no burrowing owl sign was observed during site surveys. In the absence of California ground squirrel colonies or other suitable burrows and cover, and given the active agricultural uses over most of the site, the Project site is considered marginal and unoccupied habitat for the species (Appendix E).

### **Loggerhead Shrike**

Loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern and a USFWS Bird of Conservation Concern. The species is a yearlong resident in most of the United States and in Mexico. In California, although shrikes are widespread at the lower elevations, the largest breeding populations are located in portions of the Central Valley, the Coast Ranges, and the southeastern deserts (Humple 2008). Preferred habitats for loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, and nearby spiny vegetation or structures (such as the tops of chain-link fences or barbed wire) on which to impale prey items (Humple 2008). Loggerhead shrikes occur most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be common in agricultural and grazing areas and can sometimes occur along mowed roadsides and at cemeteries and golf courses.

The closest reported known occurrence from the CNDDDB, from 2001, is from 3.6 miles southeast of the Project site (CDFW 2023). Loggerhead shrike nesting may occur within the on-site orchard and within Russian thistle shrubs in the fallow agricultural fields in the northern and southern portions of the Project site. Suitable foraging habitat for this species is present within the open agricultural fields. Loggerhead shrikes were not observed on-site during field surveys (Appendix E).



### **Northern Harrier**

Northern harrier (*Circus hudsonius*) is a California Species of Special Concern. Northern harriers nest on the ground, mostly within patches of dense, often tall, vegetation; they use coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetland habitats (Zeiner et al. 1990). A northern harrier was observed flying above the Project site during the field reconnaissance survey conducted on November 9, 2021. Suitable nesting habitat does not occur on the Project site, but marginally suitable foraging habitat for the species is present in disked fields on-site (Appendix E).

### **San Joaquin Kit Fox**

San Joaquin kit fox (*Vulpes macrotis mutica*) is federally listed as endangered and state listed as threatened. Historically, the distribution of the San Joaquin kit fox extended throughout the San Joaquin Valley and the surrounding foothills of the Coast Ranges (USFWS 2010). The species' range has been significantly reduced, and the largest extant populations occur in the western portions of the San Joaquin Valley south of Fresno County. San Joaquin kit foxes burrow in annual grasslands or grassy open stages with scattered shrubby vegetation. The species requires loose-textured sandy soils for burrowing and a suitable prey base of rodents for foraging.

There are multiple reported occurrences from the CNDDDB within 5 miles; however, these occurrences are all historical, dated from 1975 to 1981 (CDFW 2023). During the field reconnaissance survey, no burrows of a suitable size (greater than 4 inches in diameter) were detected. The intensive agricultural activities, minimal sign of prey species, and presence of coyotes on-site substantially reduce the Project site's habitat value, and kit foxes are not expected to use the site for breeding. There is a low potential for San Joaquin kit fox to use the site for foraging and dispersal; however, lack of cover may discourage kit foxes from crossing the site. No San Joaquin kit foxes, suitable dens, or sign were observed during field surveys.

### **Critical Habitat**

The Project site does not support designated critical habitat for any species of plant or wildlife (USFWS 2023).

### **Wildlife Movement Corridors**

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration and dispersal of animals. Wildlife corridors contribute to population survival by assuring genetic exchange between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local catastrophe (e.g., fire) or restoration.

The Project site does not lie within a recognized terrestrial wildlife connectivity area identified in the *California Essential Habitat Connectivity Project* (Spencer et al. 2010). However, the western San Joaquin Valley and foothills include important movement corridors for the San Joaquin kit fox (USFWS 1998). In addition, the Project site is located within the Pacific Flyway, a significant avian migration route along the West Coast of North America. The Mendota Wildlife Area,

located 4.5 miles northeast of the Project site along Fresno Slough, is an important migratory bird stopover area.

Wildlife movement studies were not conducted at the Project site; however, based on the site's agricultural use and lack of open natural habitat, and because the surrounding areas are heavily influenced by agriculture, opportunities for habitat continuity or wildlife movement are limited. The site also does not contain wildlife travel routes such as riparian strips, waterways, or underpasses, nor does it provide connectivity between large areas of open space. Thus, it is not likely that any portion of the site serves as an important linkage between habitats.

### ***Jurisdictional Waters***

Two tailwater basins are present along the eastern edge of the Project site, adjacent to the active agriculture and fallow cropland areas. These basins are constructed and likely support irrigation for on-site agriculture. These features were excavated for agricultural purposes and have no connectivity with any other waterways. They also are not expected to be considered jurisdictional by federal or state agencies, because they are less than 1 acre in size; were constructed for agricultural crop irrigation, not by modifying a surface water of the state; and appear to be maintained (Appendix E).

## **3.5.1.3 Regulatory Setting**

### ***Federal***

#### **Endangered Species Act**

The federal Endangered Species Act of 1973 (FESA) and subsequent amendments (16 USC 1531–1543) provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The law also provides a program for the conservation and recovery of threatened and endangered species and the conservation of designated critical habitat that USFWS determines to be required for the survival and recovery of these listed species.

FESA Section 9 lists actions that are prohibited under the FESA. The definition of *take* is to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Although unauthorized take of a listed species is prohibited, take may be allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of *harm* includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. *Harass* is defined as actions that create the likelihood of injury to listed species by significantly disrupting normal behavioral patterns related to breeding, feeding, and shelter.

FESA Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) (16 USC Sections 703–711) is the domestic law that affirms and implements a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. Unless and except as permitted by regulations, the MBTA prohibits the intentional pursuit, hunting, taking, capture, or killing of migratory birds anywhere in the United States. The law also applies to the disturbance and removal of nests occupied by migratory birds or their eggs during the breeding season, whether intentional or incidental.

### **Bald and Golden Eagle Protection Act**

The federal Bald and Golden Eagle Protection Act of 1940 (16 USC Section 668) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violations. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (16 USC 668[c]). *Disturb* means to agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information available, either (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 Fed. Reg. 31132; 50 CFR Section 22.3).

### **State**

#### **California Endangered Species Act**

The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et seq.) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA affirms that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a listed species under both the FESA and the CESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under Fish and Game Code Section 2080.1. Before a project may result in lawful take of a species listed under the CESA, a take permit must be issued under Section 2081(b).

#### **Fish and Game Code Sections 2080 and 2081**

Section 2080 of the Fish and Game Code states:

*No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the [California Fish and Game] Commission determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.*

Pursuant to Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise

prohibited acts may be authorized through a permit or memorandum of understanding if (a) the take is incidental to an otherwise lawful activity, (b) the individual or public agency minimizes and fully mitigates impacts of the authorized take, (c) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (d) the project operator ensures that adequate funding is available to implement the measures that CDFW requires. CDFW makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

### **Fish and Game Code Sections 3503, 3503.5, and 3513**

These sections of the Fish and Game Code prohibit project operators from conducting activities that would result in (a) the take, possession, or destruction of any birds of prey; (b) the take or possession of any migratory nongame bird; (c) the take, possession, or needless destruction of the nest or eggs of any raptors or nongame birds; or (d) the take of any nongame bird, pursuant to Fish and Game Code Section 3800, whether intentional or incidental.

### **CEQA Guidelines Section 15380**

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet either of the following criteria:

- Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.
- The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the FESA.

## **Local**

### **Fresno County 2000 General Plan**

The Fresno County General Plan (Fresno County 2000) outlines several policies intended for the protection of biological resources countywide. The following policies from the Open Space and Conservation and Agriculture and Land Use elements apply to the Project:

***Policy OS-E.1:*** The County shall support efforts to avoid the “net” loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning

grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.

***Policy OS-E.2:*** The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both on-site habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Game.

***Policy OS-E.3:*** The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.

***Policy OS-E.4:*** The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.

***Policy OS-E.9:*** Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.

***Policy OS-F.5:*** The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.

***Policy OS-F.7:*** The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.

***Policy LU-B.13:*** In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

***Program LU-A.C:*** The County shall develop and implement guidelines for design and maintenance of buffers to be required when new non-agricultural uses are approved in agricultural areas. Buffer design and maintenance guidelines shall include, but not be limited to, the following:

- a. Buffers shall be physically and biologically designed to avoid conflicts between agriculture and non-agricultural uses.
- b. Buffers shall be located on the parcel for which a permit is sought and shall protect the maximum amount of farmable land.
- c. Buffers generally shall consist of a physical separation between agricultural and non-agricultural uses. The appropriate width shall be determined on a site-by-site basis taking into account the type of existing agricultural uses, the nature of the proposed development, the natural features of the site, and any other factors that affect the specific situation.
- d. Appropriate types of land uses for buffers include compatible agriculture, open space and recreational uses such as parks and golf courses, industrial uses, and cemeteries.
- e. The County may condition its approval of a project on the ongoing maintenance of buffers.

### **Fresno County Code**

Chapter 13.12–Trees and Shrubs of the Fresno County Code establishes permit rules for tree planting and landscaping, including species of trees, planting locations, and irrigation regimes.

### **PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan**

The Project is located within PG&E’s San Joaquin Valley Operation and Maintenance HCP area. The plan allows PG&E to continue its San Joaquin Valley operation and maintenance programs in conformity with the requirements of the FESA, the CESA, and the California Fish and Game Code. The plan requires all contractors to complete HCP training to work in the plan area. The limit of the HCP coverage overlaps the PG&E interconnection line within the Project site. However, PG&E is not an applicant subject to the County’s CEQA process for this Project and the HCP does not directly apply to this Project. The Applicant would include PG&E’s work areas in its surveys and would advise PG&E if any biological species are found. PG&E would coordinate with the Applicant’s implementation of any APMs or mitigation measures that would apply to PG&E’s construction.

## **3.5.2 Significance Criteria**

The Project would result in a significant impact on biological resources if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- c) Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### 3.5.3 Direct and Indirect Effects

#### 3.5.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts to a variety of resource areas. The actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, could reduce the potential for wildlife to contract Valley Fever. Actions described in Section 2.5.9.5, *Wildlife-Friendly Design Features*, could reduce adverse impacts on nocturnal species, potentially including foraging, sheltering, mating and reproduction, communication, and migration behaviors. Actions described in Section 2.5.9.6, *Pest Management*, could reduce the potential for pests (including weeds) to adversely affect habitat conditions. Finally, actions described in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, could support the protection of water quality or result in other conditions that benefit biological resources. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*.

#### 3.5.3.2 Methodology

The following analysis relies on the criteria from Appendix G of the CEQA Guidelines to identify direct and indirect effects on biological resources. It is based on existing and potential biological resources that occur or could occur on the Project site and in the immediate vicinity, as identified through a review of relevant literature and occurrences databases, and focused biological surveys. Such resources include sensitive habitats, including potentially jurisdictional features; special-status plant and wildlife species; and potential wildlife movement corridors.

#### 3.5.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether 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 CDFW or USFWS.

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**Impact 3.5-1: The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (*Less than Significant with Mitigation Incorporated*)**

No special-status plant species have potential to occur on the Project site. Of the special-status wildlife with potential to occur (see Section 3.5.1.3, *Environmental Setting*), Swainson's hawk, loggerhead shrike, San Joaquin kit fox, and other nesting raptors and migratory birds protected under the MBTA and California Fish and Game Code have some potential to occur within the Project site. Because tricolored blackbird nesting colonies are not present onsite, this species would not be impacted and is not discussed further below.

### **San Joaquin Kit Fox**

The disked and actively cultivated agricultural lands on-site are not preferred denning habitat and only provide limited foraging habitat for San Joaquin kit fox; however, the Project site is surrounded by other agricultural lands, which have the potential to support residency or movement by kit foxes. Thus, the San Joaquin kit fox could occur on the Project site sporadically. If this species is present at the site, then construction, operation and maintenance, or decommissioning traffic would have the potential to cause a significant adverse impact on San Joaquin kit fox. These effects may occur either directly (e.g., through mortality or injury from construction vehicles or ground disturbance) or indirectly (e.g., disturbance from night lighting, which may interfere with foraging; illness from Valley Fever, which may increase with dust levels; or increased site activity, which may draw predators). This construction impact would be potentially significant.

Preconstruction clearance surveys would be conducted; fencing would be installed; the Valley Fever reduction measures set forth in Chapter 2, Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention* would be implemented; and the other minimization measures described in **Mitigation Measures 3.5-1 and 3.5-2** would be implemented, in an effort to ensure that no San Joaquin kit foxes are affected during construction or decommissioning. Implementing these mitigation measures would reduce potentially significant direct impacts on the San Joaquin kit fox to a less-than-significant level.

During Project operation, the site would be fenced with chain-link fencing with space for wildlife to pass underneath, allowing access for transit by San Joaquin kit fox. Thus, operation at the Project site would have a less-than-significant impact on this species.

### **Swainson's Hawk and Other Raptors**

One Swainson's hawk was observed in the site vicinity during biological resource surveys; a northern harrier was also observed foraging (Appendix E). Although the Project site lacks trees for nesting habitat, structures in the immediate vicinity such as transmission poles could provide nest sites for Swainson's hawk or other raptors. Construction or decommissioning activities initiated near an active Swainson's hawk or other raptor nest could disturb birds that are nesting in the vicinity, thereby resulting in nest disturbance or abandonment, a significant impact. No burrowing owl host burrows, owl sign, or burrowing owls were identified during protocol-level surveys; hence, no impacts on this species were identified.

Swainson's hawk, northern harrier, and other raptor species also may forage on the Project site. Despite the active agricultural operation, portions of the site provide habitat for prey, including gophers and other rodents. Conversion of these lands would reduce the amount of available



foraging habitat and could cause hawks to range farther from their nests for prey. However, because of the large amount of suitable foraging habitat in the vicinity of the site, the impact of the loss of approximately 260 acres of Swainson's hawk foraging habitat would be less than significant.

Should Swainson's hawks or other raptors be present on or near the site during construction or decommissioning activities, they could experience mortality or injury from disturbance or collisions with Project facilities and equipment—transmission poles or wires, fencing, and heavy equipment. Raptors generally have the ability to avoid obstacles, but their collision risk increases when they are engaged in activities such as territorial defense and foraging for prey (APLIC 2012). Fresno County contains many high-voltage transmission lines; the Project would introduce additional collision hazards to the site. However, the Project proposes to implement the Applicant-proposed measure (APM) in Section 2.5.9.5, *Wildlife-Friendly Design Features*, that includes adherence to current Avian Power Line Interaction Committee (APLIC) design standards for overhead power lines and associated structures, which would minimize the potential for avian injury and mortality from collisions with Project facilities. As a result, this potential impact would be less than significant. No mitigation is required.

As stated above, construction or decommissioning activities initiated near an active raptor nest could agitate birds nesting in the vicinity, thereby resulting in nest disturbance or abandonment, a significant impact. Implementation of the worker environmental awareness program and the preconstruction clearance surveys described in **Mitigation Measure 3.5-2** would minimize disturbance impacts on Swainson's hawks and other raptors and reduce potential direct and indirect impacts on Swainson's hawk and other raptors during construction and decommissioning to a less-than-significant level.

During operation, raptors would also be subject to a risk of collision with Project facilities. Like raptors, smaller migratory birds, including special-status birds, may experience risks of collisions with power lines. Risk factors typically associated with avian collisions with human-built structures include facility size, structure height, and the structures' specific attributes (guy wires and lighting/light attraction), as well as siting in high-risk areas, frequency of inclement weather, type of development, and species or taxa at potential risk. The role of these risk factors has been outlined in USFWS's draft guidelines for wind turbines (USFWS 2012) and communication towers (USFWS 2013), and in the peer-reviewed literature (Gehring et al. 2009, 2011; Kerlinger et al. 2010). Such collisions can result in injury or mortality, including, in the case of power lines, from electrocution. As discussed previously, the Project power lines would adhere to current APLIC design standards for overhead power lines and associated structures (including the use of avian-safe line designs, and installation of devices to make powerlines visible to birds) minimizing the potential for avian injury and mortality from collisions and electrocution (APLIC 2006, 2012). Thus, impacts on raptors and other migratory birds from operation of the Project would be less than significant. No mitigation is required.

### **Nesting Birds**

Depending on the timing of construction-related activities, the Project could result in the disturbance of active nests of special-status or migratory bird species; the abandonment of a nest

by adult birds; or the direct loss of individual nests, either of ground-nesters or of birds nesting on structures or in adjacent trees or power structure. The potential loss of an active migratory or special-status bird nest would be a significant impact. Implementing **Mitigation Measure 3.5-3** would reduce potential impacts on nesting migratory birds to a less-than-significant level.

**Mitigation Measure 3.5-1: Protection of San Joaquin Kit Fox.** Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 consistent with the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*), buffer distances shall be established before each phase of construction activities.

If avoidance of the potential dens is not feasible, the following measures shall be implemented prior to ground disturbance within 100 feet of the den to avoid potential adverse effects on the San Joaquin kit fox:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent coyotes, foxes, or other animals from reusing them during construction per USFWS (1999) guidance.
- If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installing one-way doors at burrow entrances, monitoring the burrow for 72 hours to confirm that usage has been discontinued, and excavating and collapsing the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the Project boundary, the dens shall be hand-excavated as stated above for inactive dens.

**Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources.** During construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement the following general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species:

- Prior to initiation of ground-disturbing activities and for each phase of construction or decommissioning activities, the Project owner or its contractor shall implement a worker environmental awareness program (WEAP) to train construction personnel on how to recognize and protect biological resources on the Project site. The WEAP training shall include a review of the special-status species and other sensitive biological resources that could exist in the Project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources, highlighting nesting birds protected under the MBTA, San Joaquin kit fox, and Swainson's hawk. The WEAP

training shall indicate the appropriate steps to be taken if a special-status species is observed, which may include work stoppage and coordination with CDFW and USFWS.

- The Project owner shall limit areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging before construction to avoid special-status species, under the guidance of a qualified biologist. Construction-related activities, vehicles, and equipment outside of the impact zone shall be avoided. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
- To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by construction personnel for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow them to escape. If a special-status species is trapped, USFWS and/or CDFW shall be contacted immediately.
- All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at a construction site for one or more overnight periods shall be thoroughly inspected by construction personnel for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal either has moved from the structure on its own accord or has been captured and relocated by the qualified biologist. If the trapped animal is a special-status species, USFWS and/or CDFW shall be consulted before relocation.
- Before moving vehicles and equipment parked on the site, construction personnel shall inspect the ground beneath the vehicles and equipment for the presence of wildlife.
- Vehicular traffic shall use existing routes of travel. Cross-country vehicle and equipment use outside of the Project properties shall be prohibited.
- A speed limit of 20 miles per hour shall be enforced within all construction areas.
- A long-term trash abatement program shall be established for construction, operation, and decommissioning and shall be submitted to the County. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to wildlife such as common raven (*Corvus corax*), coyote (*Canis latrans*), and feral dogs.
- Workers shall be prohibited from bringing pets (excluding service animals) to the Project site and from feeding wildlife in the vicinity.

- Intentional killing or collection of any wildlife species shall be prohibited.

**Mitigation Measure 3.5-3: Protection of Nesting Birds.** If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to August 31), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 14 days prior to each phase of construction activities. If construction is halted for 14 days or more, the area shall be re-surveyed prior to resuming work.

Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project 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 around active nests (e.g., 300 feet for common raptors; 0.25 mile for Swainson's hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.

**Significance after Mitigation:** Less than Significant. Implementing Mitigation Measures 3.5-1, 3.5-2, and 3.5-3 would reduce impacts to a less-than-significant level because impacts on kit fox would be avoided, or minimized by surveys, monitoring, and relocation if required; site workers would be trained to avoid biological resources and vehicle and construction site impacts would be curtailed; and nesting birds would be avoided in season with suitable construction avoidance buffers.

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**Criterion b)** Whether the Project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

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No sensitive natural communities or riparian habitat are present on the site; therefore, no impact would occur. (*No Impact*)

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**Criterion c)** Whether the Project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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No state or federally protected wetlands are present on the Project site; therefore, no impact would occur. (*No Impact*)

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**Criterion d)** Whether the Project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

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**Impact 3.5-2: The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (*Less-than-Significant Impact*)**

The Project site is not located in an identified terrestrial movement corridor for San Joaquin kit fox (USFWS 1998) or other wildlife species; the site is located in an agricultural area near major roads, which discourage wildlife movement. However, small terrestrial species may occasionally disperse through the site. After construction, the perimeter would be surrounded by chain-link fence with space underneath to allow passage by kit foxes and other small mammals. Thus, the Project would not interfere substantially with movement by kit foxes.

The Project is located within a significant avian migration route known as the Pacific Flyway, which covers the entire west coast of North America. Because of the low profile of the battery structures and absence of reflective surfaces, it is expected that individual birds would be minimally affected by collision with facilities. The Project would implement the APM identified in Section 2.5.9.5, *Wildlife-Friendly Design Features*, which includes adherence to current APLIC design standards for overhead powerlines and associated structures, which would minimize the potential for avian injury and mortality from collisions with Project facilities. The Project is not anticipated to affect the regional bird populations that use the Pacific Flyway. There are no perennial water features on the Project site, and no corridors for aquatic species. In addition, no wildlife nursery sites have been identified on the Project site. Thus, no impact on fish or nursery areas would occur.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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The County has policies and ordinances protecting biological resources, including wetland and riparian areas (Fresno County General Plan Goal OS-D); vegetation (Fresno County General Plan Goal OS-F); oak woodlands (General Plan Policy OS-F.10); trees and shrubs (County Code Chapter 13.12); and flowers, foliage or fruit, trees, shrubs, plants, and grass in public parks and recreation areas. However, the Project would not conflict with any of these local policies or ordinances because none of these protected resources are present on the Project site. The County also has policies protecting fish and wildlife habitat (General Plan Goal OS-E), but the Project site does not contain any fish habitat. Accordingly, no impact on fish would occur.

**Impact 3.5-3: The Project would conflict with General Plan Goal OS-E, which protects wildlife resources. (*Less than Significant with Mitigation Incorporated*)**

As described in Section 3.5.1.3, *Regulatory Setting*, General Plan Goal OS-E requires environmental review for protection of sensitive wildlife and habitats. The Project site and immediate vicinity contain potentially suitable breeding, denning, or nesting habitat for wildlife species, including San Joaquin kit fox; burrowing owl and other raptors, including Swainson's hawk; and migratory birds, including loggerhead shrike. Construction of the Project would have the potential to harm these species, if present. Implementing the preconstruction wildlife surveys, worker environmental awareness training, and wildlife avoidance and protection measures described in **Mitigation Measures 3.5-1 through 3.5-3** would avoid or minimize potential impacts on these species and ensure compliance with General Plan Goal OS-E. Therefore, with mitigation, the Project would not conflict with and would have a less-than-significant impact on local policies and ordinances protecting biological resources.

**Mitigation:** Implement Mitigation Measure 3.5-1: Protection of Special-Status Species; Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources; and Mitigation Measure 3.5-3: Protection of Nesting Birds.

**Significance after Mitigation:** Less than Significant. Implementing Mitigation Measures 3.5-1, 3.5-2, and 3.5-3 would reduce impacts to a less-than-significant level because impacts on special-status species would be avoided or minimized by surveys, monitoring, and relocation if required; site workers would be trained to avoid biological resources and vehicle and construction site impacts would be curtailed; and nesting birds would be avoided in season with suitable construction avoidance buffers.

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**Criterion f)** Whether the Project would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

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There are no adopted NCCPs in Fresno County and, other than the PG&E San Joaquin Valley Operation and Maintenance HCP discussed below, no other approved local, regional, or state HCP is in effect at the Project site. Therefore, the Project would cause no impact related to a conflict with such a plan. (*No Impact*)

**Impact 3.5-4: The Project would not conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan. (*Less-than-Significant Impact*)**

The Project's PG&E interconnection would occur within the PG&E San Joaquin Valley Operation and Maintenance HCP area. Although the HCP does not directly apply to the Project, the APMs described in Chapter 2, Section 2.5.9 are consistent with the avoidance and minimization measures and best management practices included in the HCP and would avoid or reduce impacts that might otherwise occur on nesting birds, including Swainson's hawk, and San Joaquin kit fox. As a result, the Project would not conflict with an adopted Habitat Conservation Plan. Therefore, this impact would be less than significant, with no mitigation required.

**Mitigation:** None required.

### **PG&E Infrastructure**

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the PG&E Gates Substation to the Project site) on lattice towers, each up to 200 feet tall, and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. Improvements within substation property would not be likely to impact biological resources, as they take place within a developed area. The impacts of PG&E's construction, operation, and maintenance of transmission line and lattice infrastructure are analyzed as part of the Project.

The line would be installed on four new lattice steel towers, each up to 150 feet tall and spaced at approximately 500-foot intervals. This line and associated towers, foundations, and connections would be located within the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan area. PG&E would coordinate with the Applicant on implementation of any mitigation measures that would apply to PG&E's construction, to minimize risks to migratory birds of collision with lines or towers. Implementing these measures would minimize impacts on biological resources, and would avoid conflict with an adopted Habitat Conservation Plan.

**Mitigation:** None required.

## **3.5.4 Cumulative Effects Analysis**

As stated above, implementation of the Project would result in no impact on riparian habitat or other sensitive natural communities or on protected wetlands. Accordingly, the Project would not cause or contribute to any cumulative impact related to these elements.

The geographic scope considered for potential cumulative impacts on biological resources includes the regional population or corridor extent for the species or community affected. The list of projects considered for the cumulative analysis is provided in Table 3.1-1, *Cumulative Projects List*, and depicted on Figure 3.1-1, *Potential Cumulative Projects within 15 Miles of the Project Site*. The temporal scope of the cumulative analysis is the life of the proposed facility and associated infrastructure, including the Project interconnection.

**Impact 3.5-5: The Project would not cause or contribute to a potential significant cumulative impact by having 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 CDFW and USFWS. (*Less-than-Significant Impact*)**

Unless mitigated, Project impacts on San Joaquin kit fox would be potentially significant. Identified cumulative projects include PG&E projects within existing facilities, which do not represent foraging habitat for any special-status species; and solar projects, including Fifth Standard and Brightsource, which may result in direct impacts on kit fox and the removal of potential kit fox movement or foraging habitat if kit fox were to occur in these project areas.

However, these projects are located outside of the Coast Ranges and the Ciervo-Panoche core area for San Joaquin kit fox, which occurs west of I-5 (USFWS 2010); the Project and cumulative projects are located east of I-5. Additionally, the “link” habitat for San Joaquin kit fox populations identified in the USFWS (2010) 5-year review is located west of I-5. The Project would be constructed within a dense agricultural landscape that is disked regularly and therefore is generally poorly suited as refugia habitat and would apply mitigation measures to minimize any potential impact on this species. Much of the land area east of I-5, including the land surrounding the cumulative projects, is cultivated, with few habitat islands for kit fox. Therefore, the changed land use for the Project and potential impacts on kit fox transit and foraging, when combined with the incremental impacts of other projects, would result in a less-than-significant contribution to cumulative impact.

The Applicant’s implementation of the APMs and PG&E’s implementation of its HCP measures would occur and be enforceable independent of the CEQA mitigation measures identified above and would protect any common raptor and other bird nests at the site from disturbance during construction. The identified cumulative projects in Table 3.1-1 also have the potential to affect suitable nesting and foraging habitat for raptors. However, the Project size is approximately 260 acres, among millions of acres of agricultural lands in Fresno County. Therefore, the Project (without CEQA mitigation but including the APMs and PG&E mitigation measures), in combination with all identified cumulative projects, would not result in a significant cumulative impact on raptors, including Swainson’s hawk. In any event, the Project’s incremental impact would not be cumulatively considerable.

Impacts of the Project on common and special-status migratory birds would be less than significant with mitigation. The existing and proposed solar facilities, energy projects, and residential development listed as cumulative projects would also have the potential to cause impacts on special-status birds, including injury and mortality associated with collisions during constructions and operation. However, the cumulative projects considered in this analysis are distant from the Mendota Wildlife Area, the nearest major migratory bird stopover site; they are expected to attract little flyover traffic; and the level of avian fatalities that would occur at these sites is unclear. In addition, compliance with required APMs and mitigation measures would ensure that this Project adheres to current APLIC design standards to minimize the potential for avian injury and mortality from collisions and electrocution. Because of these factors, the incremental effects of the Project on overall avian fatality from collision risk in the Central Valley would not be cumulatively considerable.

**Mitigation:** None required.

**Impact 3.5-6: The Project would not cause or contribute to any significant cumulative effect due to substantial interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (*Less-than-Significant Impact*)**

This Project would have less-than-significant impacts on wildlife movement, given its small size and its adherence to mitigation measures and APMs, including incorporation of wildlife-friendly design features. Because of the surrounding areas’ agricultural uses, the site is not an important



wildlife movement corridor. There is no existing significant cumulative impact on wildlife movement, and the incremental impacts of the Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative impact.

**Mitigation:** None required.

**Impact 3.5-7: The Project would not cause or contribute to any significant impact due to conflict with General Plan Goal OS-E, which protects wildlife resources. (*Less-than-Significant Impact*)**

This Project, with the implementation of mitigation, would have less-than-significant impacts due to a conflict with local ordinances because of its adherence to mitigation measures, APMs, and PG&E minimization measures, including its incorporation of wildlife-friendly design features. There is no existing significant cumulative impact on local ordinances, because the Project adheres to all applicable measures; and the incremental impacts of the Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative impact.

**Mitigation:** None required.

**Impact 3.5-8: The Project would not cause or contribute to any significant impact due to conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan. (*Less-than-Significant Impact*)**

This Project would have less-than-significant impacts on habitat conservation plans due to its adherence to PG&E HCP measures in the Project interconnection area. No other HCPs or NCCPs apply to the Project site. There is no existing significant cumulative impact with respect to HCPs, because the Project adheres to all applicable measures; and the incremental impacts of the Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative impact.

**Mitigation:** None required.

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## 3.6 Cultural and Tribal Cultural Resources

This section identifies and evaluates issues related to cultural resources and tribal cultural resources, including archaeological, historic built architectural, and Native American resources, in the context of the Project. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping comments from the Native American Heritage Commission (NAHC) recommending that the County conduct consultation with California Native American Tribes that are traditionally and culturally affiliated with the Project site. The NAHC also provided guidance for conducting cultural resource assessments. A copy of the NAHC letter is provided in **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on a site-specific, Project-specific cultural resources assessment (Montgomery et al. 2022) prepared on the Applicant's behalf by Rincon Consultants, Inc. (Rincon). The cultural resources assessment contains confidential information that is protected from public disclosure. The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR. Copies of Project-specific correspondence related to consultation with California Native American Tribes is provided in **Appendix F**, *Cultural and Tribal Cultural Resources*.

### 3.6.1 Setting

#### 3.6.1.1 Study Area

The study area for this analysis of potential impacts on cultural resources and tribal cultural resources consists of the areas of potential ground disturbance within the Project site, both horizontally (318 acres, including the approximately 260 acres that would be developed for the Project) and vertically (up to a depth of 15 feet). The portion of the Project proposed by the Applicant includes the energy storage system, an open-air substation adjacent to the energy storage system, ancillary facilities, and a gen-tie line to connect the collector substation to the existing PG&E Gates Substation.

To accommodate the Project, PG&E would modify existing infrastructure within the Gates Substation property and the Midway Substation property as described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*.

A cultural resources records search was completed with a 0.5-mile buffer around the Project site to support analysis of the site's likely sensitivity for cultural resources.

### 3.6.1.2 Environmental Setting

The Project site is located in California's Central Valley, which extends from the Siskiyou Mountains in the north to the Tehachapi Mountains in the south and covers approximately 20,000 square miles. The Central Valley is bounded by the Cascade Range and Sierra Nevada in the east and by the Coast Ranges in the west. The Central Valley is divided into two smaller valleys by the Sacramento–San Joaquin Delta: the Sacramento Valley and the San Joaquin Valley. The Sacramento Valley is located north of the Sacramento–San Joaquin Delta, while the San Joaquin Valley lies to the south (Rosenthal et al. 2007).

The Project site is located in the central part of the San Joaquin Valley. The valley is composed of active alluvial fans, alkali basins, and river floodplains. Historically, the valley supported a treeless plain with patches of alkali-tolerant annual forbs and grasses (Rosenthal et al. 2007). Wildlife included antelope, deer, and elk, which wintered on the plains, as well as jackrabbits, ground squirrels, and quail (Wallace 1978).

#### ***Prehistoric Setting***

The Central Valley prehistoric record is divided into three periods: Paleo-Indian (11,550 to 8550 cal B.C.<sup>1</sup>), Archaic (8550 cal B.C. to cal A.D. 1100), and Emergent (cal A.D. 1100 to Historic). The Archaic period is further divided into three sub-periods: Lower Archaic (8550 to 5550 cal B.C.), Middle Archaic (5550 to 550 cal B.C.), and Upper Archaic (550 cal B.C. to cal A.D. 1100) (Rosenthal et al. 2007).

#### **Paleo-Indian (11,550–8550 cal B.C.)**

Evidence of human occupation of the Central Valley during the Paleo-Indian period comes primarily from the San Joaquin Valley. Basally thinned and fluted concave base projectile points have been found in three San Joaquin Valley areas: Tracy Lake, the Woolfsen mound, and the Tulare Lake basin. Little other evidence of human occupation during the Paleo-Indian period is available for the Central Valley.

#### **Lower Archaic (8550–5550 cal B.C.)**

Lower Archaic occupation of the Central Valley is known mainly from isolated finds located along the ancient shorelines of lakes. Very little archaeological evidence exists for occupation of the valley floor during the Lower Archaic.

#### **Middle Archaic (5550–550 cal B.C.)**

The Middle Archaic is characterized by a climatic shift to warmer, drier conditions, similar to present-day conditions. By the Middle Archaic, foothill and valley floor groups were distinct and separate adaptations. Early sites from the Middle Archaic period are more abundant in the foothill areas and are characterized by a large quantity of stone implements designed to exploit acorns and pine nuts (Rosenthal et al. 2007).

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<sup>1</sup> The “cal” prefix indicates that the date reported is the result of radiocarbon calibration using tree ring data.

### **Upper Archaic (550 cal B.C. to cal A.D. 1100)**

Climatic changes at the start of the Upper Archaic resulted in a cooler, wetter, and more stable environment. During the Upper Archaic period, regional variations were more common and focused on resources that could be processed in bulk, such as acorns, salmon, shellfish, rabbits, and deer. The use of mortars and pestles for food processing was prevalent, except along the valley margins, where handstones and millingslabs remained dominant (Rosenthal et al. 2007).

### **Emergent (cal A.D. 1100 to Historic)**

During the Emergent Period, many Archaic Period technologies and cultural traditions disappeared throughout the Central Valley. Practices very similar to those observed by later European explorers appeared at this time. Research on Emergent Period sites in the San Joaquin Valley has been limited; only one cultural pattern, the Panoche Complex (circa A.D. 1500–1850), has been fully identified (Moratto 1984).

### ***Ethnographic Setting***

At the time of European contact, the Central Valley was occupied by speakers of the California Penutian language family, specifically the Yokuts. The Yokuts entered the San Joaquin Valley sometime before A.D. 1400, perhaps by force, as indicated by skeletal remains with fatal wounds inflicted by projectile points (Arkush 1993). Historically, the Yokuts have been divided into three cultural-geographical groupings: Northern Valley, Southern Valley, and Foothills (Arkush 1993). Based on written records regarding the territorial boundaries of these three cultural-geographical groupings, the Project area lies within the ancestral land boundaries of the Southern Valley Yokuts people.

The Southern Valley Yokuts territory included Tulare, Buena Vista, and Kern lakes and the lower portions of the Kings, Kaweah, Tule, and Kern rivers (Wallace 1978). A large Southern Valley Yokuts village, *Poso de Chane*, was located about 6 miles east of present-day Coalinga (approximately 6 miles west of the Project site). The village was centered on a large watering pool (poso). Later, the area became home to a small Spanish/Mexican agricultural community (Hoover et al. 1990).

### ***Historic Setting***

Widespread exploration of the Central Valley by non-native American peoples began in the early 1800s when Lieutenant Gabriel Moraga led a Spanish contingent over Pacheco Pass and into the valley; however, no permanent Spanish settlements were established in the San Joaquin Valley (CAGenWeb 2000).

One of the earliest Spanish trails, known as El Camino Viejo (The Old Road), ran north-south through the San Joaquin Valley from San Pedro to San Antonio (present-day East Oakland). The trail followed the path of a prehistoric trail and skirted the eastern slope of the Coast Ranges foothills (about 4 miles east of the Project site). El Camino Viejo was an alternative route to the heavily traveled El Camino Real (The Royal Road) and was often the preferred route of those who wished to travel without the knowledge of the Spanish government. The trail became a

stagecoach and mail route and an important route for cattle ranchers. In the valley, the route largely corresponds to modern-day Interstate 5 (Hoover et al. 1990).

Mexico gained independence in 1821 and began secularizing the missions and promoting settlement of Alta California by issuing land grants and enacting liberal colonization laws. These efforts did not prevent foreigners from settling in Mexican territory, and they allowed a large number of Euro-Americans to gain a foothold in Alta California. In an attempt to prevent continued foreign incursion and promote a greater Mexican presence in the interior, Mexico issued the 1840 Law of Colonization and encouraged the establishment of cattle ranches in the Central Valley; however, few Mexican land grants were issued in the San Joaquin Valley, and only two were issued in parts of Fresno County (Hoover et al. 1990; Shumway [1941] 2007).

In 1848, gold was discovered at Sutter's Mill, resulting in a large influx of immigrants who hoped to make their fortunes. California was ceded to the United States in that same year, after the Mexican-American War ended, and officially became a state in 1850. Mexico's public lands became United States public lands and were surveyed, sectioned, and made available for sale and settlement (Hoover et al. 1990; Shumway [1941] 2007; State Lands Commission 1982).

The federal government enacted legislation in the mid-1800s to promote settlement of the western United States and dispose of surplus public land. The Homestead Act of 1862 allowed settlement of public lands, requiring only that settlers reside on, improve, and cultivate the land. Anyone who was over the age of 21 and head of a household could make a claim for a 160-acre parcel by paying an \$18 fee. The act offered single women, former slaves, and new immigrants an opportunity to own a piece of land, provided that they improved and lived on the land for 5 years. These laws were designed to give individual settlers and families access to land ownership, but many land speculators and farmers/ranchers manipulated them to obtain huge tracts of land for little cost, particularly in the San Joaquin Valley. The railroads also benefited from federal laws, which granted alternating odd-numbered sections within 20 miles of a projected rail line to facilitate rail expansion (Caltrans 2007; Orsi 2005).

Fresno County was organized in 1856 from a portion of Mariposa County. The development of the Central Pacific Railroad through the county in 1872 resulted in the creation of the town of Fresno, which became the Fresno County seat in 1874. The original county seat was located in Millerton, 25 miles north of the town of Fresno, but the decision was made to move the county seat south to gain access to the railroad (Hoover et al. 1990).

As the mining industry waned in the mid-1860s, many valley settlers turned to raising cattle and sheep. Among these residents were many Basque and Portuguese immigrants who had been shepherds in their native lands (Graves 2004; Miller 2013). Sheep were herded primarily on the uninhabited west side of the valley, where they fed on wild alfalfa or were rented to graze stubble land.

After the decline of the cattle industry in the 1870s, the grain industry rose to prominence. In 1889, the San Joaquin Valley's wheat crop topped 40 million bushels, the largest crop in the United States except that produced by the entire state of Minnesota. In the ensuing years, a failure to rotate crops depleted the soil and yields decreased. This, coupled with a drop in grain prices



and the advancement of irrigation, opened up the opportunity for viticulture and other horticultural pursuits to expand (Ryan and Breschini 2010; Vandor 1919). During the latter part of the 19th century, agricultural colonies contributed heavily to the growth of Fresno County. These colonies established numerous extensive canal systems to provide water to the region's farmers (Hattersley-Drayton 2009).

The early 1900s saw the rise of the dairy farmer in the San Joaquin Valley (Caltrans 2007). The decline of the wool industry from the 1880s into the early 1900s left many San Joaquin Valley Portuguese shepherders unemployed, and many turned to the growing pursuit of dairy farming. Most began as milk hands, saving income until they could start their own dairy farms. By the 1930s, Portuguese-run dairy farms were well established in the valley (Graves 2004).

In the mid-1930s, the Great Depression, drought, and poor economic and agricultural conditions in the southern and plains states led to a mass migration of "Dust Bowl refugees" to California. Approximately 300,000–400,000 migrants from Oklahoma, Texas, Arkansas, Missouri, and other states moved to California, drawn by the promise of employment and a better life (Gregory 2013). Many ended up in the San Joaquin Valley to work as field hands; by 1950, as many as one in four residents of the San Joaquin Valley had emigrated from Oklahoma, Texas, Arkansas, or Missouri (Gregory 1989).

Today, a wide variety of agricultural enterprises exist in the San Joaquin Valley, with farms ranging from small to large industrial operations and producing crops such as fruits, nuts, barley, beans, corn, hay, beets, wheat, and cotton. Livestock, including cattle and poultry, continues to be raised in the San Joaquin Valley (Caltrans 2007).

### **3.6.1.3 Regulatory Setting**

#### ***Federal***

##### **National Register of Historic Places**

The National Register of Historic Places (National Register) was established by the National Historic Preservation Act (NHPA) as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria, along with being at least 50 years old and possessing integrity to convey their significance:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history.

- B. Are associated with the lives of persons significant in our past.
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

Resources identified as eligible for or listed in the National Register are automatically considered eligible for listing in the California Register of Historical Resources (California Register).

### **American Indian Religious Freedom Act**

The American Indian Religious Freedom Act of 1978 protects the rights of Native Americans to freedom of expression of traditional religions (24 U.S.C. Section 1996). This law established “the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions... including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.”

## **State**

### **California Register of Historical Resources**

Created in 1992 and initially implemented in 1998, the California Register is “an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” A resource, either an individual property or a contributor to a historic district, may be listed in the California Register if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on National Register criteria, and retains sufficient integrity to reflect its historical significance:

1. Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in history or prehistory.

Typically, an archaeological site in California is recommended eligible for listing in the California Register based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. However, archaeological sites may also be recommended eligible under California Register Criteria 1, 2, and/or 3.

As with traditional cultural properties in the National Register, identification of tribal cultural resources for the California Register emphasizes a place or feature's value and significance to living communities. Assembly Bill (AB) 52, summarized below under "Public Resources Code," further clarified this designation process.

### **California Environmental Quality Act**

Under CEQA (Public Resources Code Section 21084.1), a project would have a significant effect on the environment if it would cause a substantial adverse change in the significance of a historical resource. The CEQA Guidelines (14 Cal. Code Regs. Section 15064.4) recognize that a historical resource is any of the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register.
2. A resource included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1(g).
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 by the Lead Agency, provided the Lead Agency's determination is supported by substantial evidence in light of the whole record.

The fact that a resource does not meet the three criteria outlined above does not preclude the Lead Agency from determining that the resource may be a historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

If a Lead Agency determines that an archaeological site is a historical resource, then the provisions of Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.4 apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired) in the significance of a historical resource, then the Lead Agency must identify potentially feasible measures to mitigate these effects (14 Cal. Code Regs. 15064.4[b][1] and 15064.4[b][4]).

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

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in CEQA Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2. Specifically, if the Lead Agency determines that a project would have a significant effect on unique archaeological resources, the Lead Agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place (Public Resources Code Section 21083.1[a]). If preservation in place is not feasible, mitigation measures are required.

If an archaeological resource is neither a unique archaeological nor a historical resource, then the effects of the project on those resources are not considered a significant effect on the environment (14 Cal. Code Regs. 15064.4[c][4]).

### Public Resources Code

AB 52, enacted in September 2014, amended CEQA to explicitly recognize that California Native American Tribes have expertise with regard to their tribal history and practices. AB 52 established a new category of cultural resources, known as *tribal cultural resources*, to consider tribal cultural values when determining impacts on cultural resources. Public Resources Code Section 21074(a) defines a tribal cultural resource as either of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the California Register.
  - Included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k).<sup>2</sup>
- A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c).<sup>3</sup> In applying these criteria, the Lead Agency would consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria of CEQA Section 21074(a)<sup>4</sup> is also a tribal cultural resource if the landscape is geographically defined in terms of the size and scope. In addition, a

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<sup>2</sup> Public Resources Code Section 5020.1(k) defines *local register of historical resources* as “a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.”

<sup>3</sup> The criteria set forth in Public Resources Code Section 5024.1(c) include whether a resource: “(1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage. (2) Is associated with the lives of persons important in our past. (3) 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. (4) Has yielded, or may be likely to yield, information important in prehistory or history.”

<sup>4</sup> A cultural landscape meets the criteria of Public Resources Code Section 21074(a) if it either is “included or determined to be eligible for inclusion in the California Register of Historical Resources” or is “included in a local register of historical resources” pursuant to Section 5020.1(k).

historical resource as described in CEQA Section 21084.1,<sup>5</sup> a unique archaeological resource as defined in CEQA Section 21083.2,<sup>6</sup> or a non-unique archaeological resource as defined in CEQA Section 21083.2<sup>7</sup> may be a tribal cultural resource if it meets the criteria of CEQA Section 21074(a).

AB 52 requires Lead Agencies to analyze project impacts on “tribal cultural resources” separately from impacts on archaeological resources (Public Resources Code Sections 21074 and 21083.09), in recognition that archaeological resources have cultural values beyond their ability to yield data important to prehistory or history. AB 52 also defines “tribal cultural resources” in Public Resources Code Section 21074 (see above) and requires that Lead Agencies engage in additional consultation procedures with respect to California Native American Tribes (Public Resources Code Sections 21080.3.1, 21080.3.2, and 21082.3).

### **Native American Heritage Commission**

The NAHC identifies and manages a catalog of places of special religious or social significance to Native Americans. This database, the Sacred Lands File, is a compilation of information on known graves and cemeteries of Native Americans on private lands and other places of cultural or religious significance to the Native American community. The NAHC also performs other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items.

Public Resources Code Sections 5097.9 through 5097.991 describe the duties and role of the NAHC and requires the cooperation of state and local agencies in carrying out their duties with respect to Native American resources.

### **Health and Safety Code, Sections 7052 and 7050.5**

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

### **Other Relevant State Laws**

Sections of the Public Records Act (Government Code Sections 6254[r] and 6254.10), Health and Safety Code (Section 7050.5), Penal Code (Section 622.5), and Public Resources Code (Section 622.5) provide guidance for protection of archaeological resources and human remains. These

<sup>5</sup> Public Resources Code Section 21084.1 defines a *historical resource* as “a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources.”

<sup>6</sup> Public Resources Code Section 21083.2(g) defines *unique archaeological resource* as “an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information. (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type. (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.”

<sup>7</sup> Public Resources Code Section 21083.2(h) defines *nonunique archaeological resource* as “an archaeological artifact, object, or site which does not meet the criteria in subdivision (g).”

code sections provide protection against unauthorized excavation, looting, or vandalism; guidance to follow after a discovery of human remains; a penalty for injuring or destroying objects of historic or archaeological interest; and a penalty for the unauthorized disturbance or removal of archaeological or historical features.

## **Local**

### **Fresno County 2000 General Plan**

The Open Space and Conservation Element of the *Fresno County 2000 General Plan* contains several objectives and policies relevant to the protection of cultural resources within the Project site and surrounding area (Fresno County 2000). The Historical, Cultural, and Geological Resources section of the Open Space and Conservation Element provides a goal and policies directing the protection of historical and archaeological resources in Fresno County.

**Goal OS-J:** To identify, protect, and enhance Fresno County's important historical, archeological, geological, and cultural sites and their contributing environment.

**Policy OS-J.1:** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.

**Policy OS-J.2:** The County shall, within the limits of its authority and responsibility, maintain confidentiality regarding the locations of archeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

**Policy OS-J.3:** The County shall solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or sites of cultural importance.

### **3.6.1.4 Cultural Resources and Tribal Cultural Resources Identified within the Project Site and Surrounding Area**

#### ***Identification of Known Cultural Resources***

The research investigations completed for the Project consisted of a records search of the Project site and a 0.5-mile radius buffer, conducted at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield. The SSJVIC, an affiliate of the California Office of Historic Preservation, is the official state repository of cultural resource records and reports for Fresno County. SSJVIC staff conducted the records search at the request of Rincon, who prepared the cultural resources assessment on behalf of the Applicant (Records Search File No. 21-438). As part of the records search, the following federal and State of California inventories were reviewed:

- California Inventory of Historic Resources

- California Points of Historical Interest
- California Historical Landmarks
- Built Environment Resources Directory for Fresno County
- Archaeological Determinations of Eligibility for Fresno County

In addition, historic research was performed to achieve a better understanding of the study area's land use history. This research consisted of reviewing historic literature, topographic maps, and aerial imagery. SSJVIC records indicate that nine previous technical studies have been performed within the records search area. None of these studies intersected portions of the Project site. The records search also indicated that no cultural resources were previously recorded within the Project site. Four cultural resources—three transmission lines (P-10-006610, P-10-006640, and P-10-007185) and the alignment of Interstate 5 (P-10-007205)—were recorded within 0.5 mile of the Project site.

### ***Native American Contact***

Fresno County maintains a list for AB 52 consultation that includes four Tribes: Table Mountain Rancheria, Santa Rosa Rancheria Tachi-Yokut Tribe, Dumna Wo Wah, and Picayune Rancheria of Chukchansi Indians. Letters to the Tribes were mailed on February 4, 2022. Santa Rosa Rancheria responded on February 14, 2022. Santa Rosa Rancheria requested that tribal monitors be on-site during all Project-related ground disturbance and that a curation agreement be put in place (McCarty, pers. comm. 2022).

Additionally, Rincon contacted the NAHC to request a search of the Sacred Lands File. The NAHC responded on December 16, 2021, stating that the search failed to identify any Native American resources on or near the Project site and providing a list of individuals and organizations that may have additional information (Montgomery et al. 2022).

### ***Archaeological Field Surveys***

Rincon conducted a pedestrian field survey of the Project site between December 6 and December 8, 2021. The archaeological crew surveyed the entire Project site using transects spaced 15 meters wide. The Project site consisted mostly of tilled, fallow fields, with an orange orchard covering approximately 25 percent of the site. Ground surface visibility was excellent (100 percent) throughout the tilled, uncultivated fields, and approximately 50 percent within the orange orchard. Soils on the Project site consisted of compacted light to dark brown sandy silty clayey loam. The Project site has been heavily disturbed from historic-era and modern agricultural tilling and use. No cultural resources were identified as a result of the pedestrian survey (Montgomery et al. 2022).

### ***Potential for Unknown Buried Cultural Resources***

The ground surface of the Project site has been highly disturbed by previous agricultural activities. The U.S. Geological Survey characterized deposits in the region as Quaternary alluvium. No major rivers, streams, or drainages flow through the Project site.

The geoarchaeological sensitivity analysis presented in *Geoarchaeological Overview and Assessment of Caltrans Districts 6 and 9* (Meyer et al. 2010) provides a broad overview of geoarchaeological information for Fresno, Kern, Kings, Madera, Tulare, Inyo, and Mono counties. Meyer and colleagues reviewed the Soil Survey Geographic Database and the State Soils Geographic Database and compiled previously reported radiocarbon dates, analyses of landform superposition, and field examinations of stratigraphic relationships. They constructed a regional model to predict archaeological site locations based on two environmental factors: proximity to water and landform slope. The model assumes that past human activity, and thus the formation of archaeological sites, occurred more frequently in flat areas close to water sources, such as rivers, lakes, and springs. Flat landforms would be expected to be more attractive for occupation than sloped landforms, and to be less susceptible to gravity-driven processes such as landslides capable of destroying archaeological deposits. According to this model based on geomorphology, proximity to water, and landform slope, the Project site has a moderate sensitivity for buried archaeological resources (Meyer et al. 2010).

The study area is situated in an area of latest Holocene (2,000–150 cal. Before Present) deposition, which has occurred over the course of known human occupation in the region. Therefore, the deposition of alluvium could possibly have buried prehistoric archaeological sites that once existed on the surface. However, given the lack of nearby water sources or other natural resources, large, permanent settlements are unlikely to have occurred within the Project site. The nearest reliable water sources (Zapato Chino Creek and Los Gatos Creek) are 3–4 miles from the Project site. In addition, no prehistoric resources are recorded within 0.5 mile of the Project site and no cultural resources were identified during the pedestrian survey.

Although the potential for buried prehistoric archaeological deposits in neighboring regions has been characterized as moderate (Meyer et al. 2010), such broad analyses must be tempered by local conditions. The Project site is located in an area that has a sparse record of prehistoric occupation, as supported by the records search. Moreover, agricultural fields extensively disturb archaeological deposits but do not erase them; on the contrary, such activities often bring buried deposits to the surface. No such deposits were identified on the Project site during the surface surveys. Therefore, the Project site has a low potential for the discovery of significant archaeological deposits. Nevertheless, some possibility exists that buried archaeological deposits may be encountered during Project-related excavation for the installation of foundations for the gen-tie poles, which would include concrete footings placed up to approximately 15 feet below ground surface.

### 3.6.2 Significance Criteria

The Project would result a significant impact on cultural resources or tribal cultural resources if it would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;



- c) Disturb any human remains, including those interred outside of formal cemeteries; or
- d) 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:
  - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
  - ii. A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c).

In applying the criteria set forth in Public Resources Code Section 5024.1(c), Fresno County, as the CEQA Lead Agency, has considered the significance of the resource to a California Native American Tribe.

### 3.6.3 Direct and Indirect Effects

#### 3.6.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of the actions specifically target potential impacts on cultural resources or tribal cultural resources, but one or more among them could result in a benefit to such resources. For example, the actions described in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, would ensure that the enforceable requirements described in Section 3.6.1.3, *Regulatory Setting*, are implemented.

#### 3.6.3.2 PG&E Cultural Resource Protection Measures

PG&E would implement the following cultural resources protection measures to address anticipated impacts on cultural resources attributable to construction, operation, and/or maintenance of the PG&E infrastructure (PG&E 2016):

**PG&E-1: Inadvertent Cultural Resource Discovery.** If cultural resources are observed during ground-disturbing activities (including but not limited to flaked stone tools (e.g., projectile point, biface, scraper) and debitage (flakes) made of chert, obsidian, etc., groundstone milling tools and fragments (e.g., mortar, pestle, handstone, millstone), faunal bones, fire-affected rock, dark middens, housepit depressions and human interments, small cemeteries or burial plots, cut (square) nails, containers or miscellaneous hardware, glass fragments, cans with soldered seams or tops, ceramic or stoneware objects or fragments, milled or split lumber, earthworks, feature or structure remains, and trash dumps, the following procedures will be followed:

- Stop all ground-disturbing work within 100 feet of the discovery location to avoid impacts.

- Immediately notify a PG&E Cultural Resource Specialist who will assess the discovery and provide guidance on how to proceed, following Utility Standard ENV-8005S.
- Leave the site or the artifact untouched.
- Record the location of the resource, the circumstances that led to discovery, and the condition of the resource.
- Do not publicly reveal the location of the resource, and ensure that the location is secured.
- If unsure about the significance or antiquity of a discovery, photograph the artifact or feature with a scale (e.g., coin, tape measure) and send to a PG&E cultural resource specialist for review.

Comprehensive guidance on the protocol related to an inadvertent discovery of potentially significant cultural resources on a jobsite can be found in Utility Standard ENV-8005S or by consulting a PG&E cultural resource specialist.

**PG&E-2: Human Remains Protocol.** Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. In keeping with the provisions provided in Section 7050.5 and Public Resources Code Section 5097.98, if human remains are encountered (or are suspected) during any Project-related activity, the following procedures will be followed:

- Stop all ground-disturbing work within 100 feet of the location.
- Immediately contact a PG&E cultural resource specialist, who will initiate the legally mandated notification and response protocol.
- Secure the location.
- Treat the remains with respect and do not handle, alter, or remove bones or associated artifacts from the discovery location.
- Do not remove associated spoils from the site or pick through them.
- Record the location and keep notes of all calls and events.
- Treat the find as confidential and do not publicly disclose the location.

**PG&E-3: Worker Awareness Training.** Before the start of any ground-disturbing activity, PG&E's cultural resource specialist shall prepare archaeological and historical resources sensitivity training materials for use during a Project-wide worker environmental awareness training, or equivalent. The cultural resource specialist shall make the training materials available for review and comment by California Native American groups that express interest in the project. The worker environmental awareness training shall be conducted by a qualified environmental trainer, working under the supervision of the cultural resource specialist. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of resources that could be encountered within the Project site and the procedures to be followed if they are found. PG&E and/or its contractor shall retain documentation demonstrating that all construction personnel attended the training prior to the start of work on the site, which documentation shall be made available upon request.

### 3.6.3.3 Methodology

A cultural resources characterization and evaluation of the Project site was completed to evaluate the Project's potential effects on significant cultural resources and tribal cultural resources, including prehistoric and historic archaeological sites. This evaluation included a literature review, Native American outreach program, geoarchaeological review, and field survey for areas of potential permanent and temporary impacts where facilities would be installed (Montgomery et al. 2022). The purpose of this evaluation was to identify any cultural resources and tribal cultural resources that may be present within the Project site. Additionally, under AB 52, Fresno County engaged in consultation with local Tribes (described above) to solicit input on potential tribal cultural resources within or near the Project site.

Impacts on cultural resources and tribal cultural resources could result from Project-related ground-disturbing activities, including excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and subsurface disturbance that could damage or destroy surficial or buried archaeological resources, including prehistoric and historic materials or human burials.

### 3.6.3.4 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

**Criterion b)** Whether the Project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

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Project construction would not affect known historical or unique archaeological resources, because no resources that meet CEQA's definition of a historical resource or unique archaeological resource are known to be located within the Project site. No cultural resources were identified on the Project site as a result of the records search and pedestrian survey. Therefore, the Project would result in no impact on known historical or unique archaeological resources. (*No Impact*)

**Impact 3.6-1: Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. (*Less than Significant with Mitigation Incorporated*)**

Project construction could affect previously unknown, buried archaeological resources. According to the geoarchaeological review, the Project site has low sensitivity for buried archaeological resources based on its geomorphology, proximity to water, and landform slope. The lack of nearby water sources in particular suggests that long-term habitation sites are unlikely. Nonetheless, given that the general vicinity is covered by Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, the deposition of alluvium could possibly have buried prehistoric archaeological sites that once

existed on the surface. Therefore, although the probability of significant prehistoric resources existing within the Project site is low overall, there nevertheless exists the possibility that buried archaeological resources may be encountered during ground-disturbing activities.

If unknown archaeological resources are discovered during ground-disturbing activities required for Project construction, operation and maintenance, or decommissioning and site restoration, significant impacts could occur. With the implementation of **Mitigation Measure 3.6-1**, which requires the retention of a qualified archaeologist and cultural resources awareness training, and **Mitigation Measure 3.6-2**, which governs procedures in the event of inadvertent discovery of archaeological materials, impacts on any newly discovered historical or unique archaeological resources would be reduced to less than significant.

Decommissioning and closure of the Project would not affect historical or unique archaeological resources. Ground disturbance associated with decommissioning would occur within soils previously disturbed by construction (and would be subject to **Mitigation Measures 3.6-1** and **3.6-2** during construction). Therefore, no impact on historical and unique archaeological resources would result from decommissioning.

**Mitigation Measure 3.6-1: Cultural Resources Awareness Training.** The Project Applicant shall retain a qualified archaeologist during each construction phase to carry out all mitigation measures related to archaeological and historical resources.

Prior to the start of any ground-disturbing activities for each construction phase, the Project Applicant shall ensure that the qualified archaeologist has conducted cultural resources awareness training for all construction personnel participating in Project ground-disturbing activities. Additional cultural resources awareness trainings will be conducted for new construction personnel participated in Project ground-disturbing activities who may join the Project after the start of each construction phase. A Native American–designated representative shall be invited to attend and provide additional materials during each training. The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. A sign-in sheet shall be completed, retained by the Project construction contractor for the duration of Project construction to demonstrate attendance at the awareness training, and provided to the County upon the completion of Project construction.

**Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources.** In the event archaeological materials are encountered during Project construction activities, the Project construction contractor shall immediately cease any ground-disturbing activities within 100 feet of the find. The qualified archaeologist (and a Native American–designated representative if the resource is Native American–related) shall evaluate the significance of the resources for California Register of Historical Resources eligibility and recommend appropriate treatment measures to the County and the Applicant. Per CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist (in coordination with a Native American–designated representative if the resource is Native American–related) shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native

American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric, tribal cultural resources, or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County and to the Southern San Joaquin Valley Information Center. Construction can recommence based on direction of the qualified archaeologist with the County's agreement.

**Significance after Mitigation:** Less than Significant. The implementation of Mitigation Measures 3.6-1 and 3.6-2 would reduce the impact to a less-than-significant level because these measures establish a plan to evaluate any cultural resources identified during Project construction for eligibility and, if necessary, to prepare a treatment plan to minimize impacts on the resource.

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**Criterion c)** Whether the Project would disturb any human remains, including those interred outside of formal cemeteries.

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As described above, there is no indication that the Project site has been used for human burial purposes in the recent or distant past. However, in the event of a discovery of human remains, including those interred outside of formal cemeteries, the human remains could be inadvertently damaged, which would be a significant impact under CEQA. Implementation of laws defined in CEQA Guidelines Section 15064.4(e)(1), Health and Safety Code Section 7050.5(c), and Public Resources Code Section 5097.98 (as amended) regarding the discovery of human remains would ensure that any human remains encountered are addressed appropriately, thus reducing any potential impacts to a less-than-significant level.

Operation and maintenance would cause no impact on human remains because no ground disturbance would occur at depths greater than those reached during construction.

Decommissioning and site reclamation similarly would not affect human remains. Ground disturbances associated with these activities would occur within soils previously disturbed by construction and, during construction, would have been subject to CEQA Guidelines Section 15064.4(e)(1), Health and Safety Code Section 7050.5(c), and Public Resources Code Section 5097.98 (as amended). Therefore, no impact on human remains would result. (*No Impact*)

**Mitigation:** None required.

**Criterion d.1)** Whether the Project would 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).

**Criterion d.2)** Whether the Project would 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 Public Resources Code Section 5024.1(c).

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**Impact 3.6-2: Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a). (*Less than Significant with Mitigation Incorporated*)**

A tribal consultation letter from the Santa Rosa Rancheria Tachi Yokut Tribe requested that monitors be present during all ground disturbance related to the Project and that a curation agreement be in place (McCarty, pers. comm. 2022). The results of the records search conducted at the SSJVIC identified no prehistoric archaeological isolates within 0.5 miles of the Project site and no prehistoric archaeological resources were identified during field survey of the Project site (Montgomery et al. 2022). A letter from the NAHC stated that a review of the Sacred Lands File failed to identify any Native American resources in the vicinity of the Project.

In light of the nature of the Project and the disturbed character of the site, types of tribal cultural resources, if any, are anticipated to be subsurface prehistoric archaeological resources, including human remains. As further described above, no such prehistoric resources have been documented within, or in the immediate vicinity of, the Project site. If not discovered before development, such resources could be damaged or destroyed through earthwork, ground disturbance, or other subsurface construction activities. Damage to or loss of tribal cultural resources would be a potentially significant impact. Implementation of **Mitigation Measures 3.6-1** and **3.6-2** would ensure that any encountered archaeological resources that are considered tribal cultural resources would be addressed appropriately, thus reducing any potential impacts to a less-than-significant level.

Operation, maintenance, decommissioning, and reclamation of the Project would cause no impact on tribal cultural resources.

**Mitigation:** Implement Mitigation Measures 3.6-1 and 3.6-2.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measures 3.6-1 and 3.6-2 would reduce the potential impact to a less-than-significant

level because all construction personnel involved in ground-disturbing activities will be trained in the identification and notification process in the event of the identification of archaeological deposits and human remains, and because any potential archaeological resources identified that could be considered tribal cultural resources would be evaluated and treated, and consultation with Native American representatives would occur to determine appropriate treatment.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation and Midway Substation properties to accommodate the Project.

The ground-disturbing construction activities associated with the PG&E infrastructure would be required to comply with laws pertaining to the disposition of cultural resources and human remains: Health and Safety Code Sections 7052 and 7050.5, Public Resources Code Section 21074(a) (AB 52), and CEQA Guidelines Section 15064.4. Nonetheless, the potential exists for ground-disturbing activities for construction of the PG&E infrastructure to cause a substantial adverse change to a newly discovered historical or archaeological resource, damage to previously unidentified human remains, or a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, because subsurface excavation may disturb intact soils containing such resources. Any resulting impact would be potentially significant. Implementation of PG&E's standard measures, including PG&E-1, PG&E-2, and PG&E-3, which provide for a cultural resources awareness training and protocol to follow up in the event of an inadvertent discovery of cultural resources or human remains during Project implementation, would ensure that any archaeological resources or human remains encountered would be addressed appropriately, thus reducing any potential impacts to a less-than-significant level. None of the mitigation measures identified for the Project would be required in connection with the PG&E infrastructure.

**Mitigation:** None required.

## **3.6.4 Cumulative Effects Analysis**

**Impact 3.6-4: The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources. (*Less than Significant with Mitigation Incorporated*)**

The geographic scope for cumulative impacts on cultural resources and tribal cultural resources extends within a 5-mile radius from the Project site. The geographic scope of analysis is appropriate because the archaeological and historical resources within this radius are expected to be similar to those occurring on the Project site: Their proximity, similar environments, landforms, and hydrology are expected to have resulted in similar land uses over time. Based on the professional experience of the EIR preparers identified in Chapter 6, *Report Preparation*, and the Tribes, research, and the prehistoric context, the area within this 5-mile radius of the Project site may

contain a significant archaeological and historical record that has not been well documented or recorded. Therefore, this analysis conservatively assumes that the land within this area contains cultural resources or tribal cultural resources that are not yet known.

The temporal scope for cumulative impacts on cultural resources and tribal cultural resources would be the duration of the Project's ground-disturbing activities. In this context, the incremental impacts of the Project could combine with similar incremental impacts of past, other present, and reasonably foreseeable future projects within the 5-mile radius of the site to cause or contribute to a significant cumulative impact should any of the criteria in Section 3.6.2, *Significance Criteria*, be exceeded.

There is no indication in Section 3.6.1.2, *Environmental Setting*, or elsewhere in the Project record of any existing significant adverse condition related to cultural resources or tribal cultural resources in the geographic area of cumulative consideration to which the Project could contribute. Project-level mitigation measures would require cessation of activities and buffering of finds in a manner that would substantially reduce the Project's incremental contribution. Thus, even if it is conservatively assumed that a potential significant cumulative effect exists, the negligible impact remaining after the implementation of recommended mitigation measures would not be cumulatively considerable. With implementation of the mitigation measures recommended at the Project-specific level, the Project would cause a less-than-significant cumulative contribution to a potential significant cumulative impact on cultural resources and tribal cultural resources.

**Mitigation:** Implement Mitigation Measures 3.6-1 and 3.6-2.

**Impact 3.6-5: The Project would not cause a cumulatively considerable contribution to any significant impact due to damage to previously unidentified human remains. (*Less than Significant*)**

There is no indication of any existing significant adverse condition related to the discovery of human remains in the geographic area of cumulative consideration to which the Project could contribute. The Project would contribute to a less-than-significant cumulative impact related to the discovery of human remains.

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### 3.6.5 References

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## 3.7 Energy

This section identifies and evaluates issues related to energy efficiency and consumption, including electricity and transportation fuels. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County did not receive scoping input pertaining to energy (**Appendix A, Scoping Report**).

The analysis in this section is based in part on the Project-specific air quality and greenhouse gas (GHG) study prepared on the Applicant's behalf (**Appendix D1, Air Quality and Greenhouse Gas Study**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR. The analysis in this section is also based in part on the Project-specific energy calculations prepared on the County's behalf (**Appendix D2, Fuel Use Calculations**).

### 3.7.1 Setting

#### 3.7.1.1 Study Area

The study area for Project impacts related to energy includes the state of California for purposes of overall energy use and energy-related plans, the PG&E service area for purposes of electrical service, Fresno County for purposes of fuel consumption, and the area surrounding the Project site as it relates to energy generation, energy consumption, and fuel consumption.

#### 3.7.1.2 Environmental Setting

##### ***Electricity***

In 2020, total system electricity generation for California was 272,576 gigawatt-hours (GWh), down 1.8 percent from 2019's total generation of 277,704 GWh. Approximately 70 percent of the electrical power needed to meet California's demand is produced in the state; the balance, approximately 30 percent, is imported from the Pacific Northwest and the Southwest. In 2020, California's in-state electricity generation was derived from natural gas (48 percent); large hydroelectric resources (9 percent); nuclear sources (9 percent); oil and coal (less than 1 percent); and renewable resources that include geothermal, biomass, small hydroelectric, wind, and solar (33 percent). Of the approximately 63,665 GWh generated from renewable sources in the state, solar-generated electricity made up the highest proportion (46 percent), followed by wind (21 percent), geothermal (18 percent), biomass (9 percent), and small hydroelectric (5 percent) (CEC 2023a).

PG&E is an investor-owned utility company that provides electricity supplies and services throughout a 70,000-square-mile service area that extends from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. Fresno County is within PG&E's service area for electricity. Operating characteristics of PG&E's

electricity supply and distribution systems are provided below. Also discussed is the regional consumption of transportation fuels.

### PG&E Electric Utility Operations

PG&E provides *bundled* services (i.e., electricity, transmission, and distribution services) to most of the six million customers in its service territory, including residential, commercial, industrial, and agricultural consumers. In recent years, PG&E has improved its electric transmission and distribution systems to accommodate the integration of new renewable energy resources, distributed generation resources, and energy storage facilities, and to help create a platform for the development of resilient grid technologies (PG&E 2023).

In 2022, PG&E owned approximately 7,832 megawatts (MW) of generation capacity, itemized in **Table 3.7-1**. The remaining electrical power in PG&E’s portfolio is purchased from other sources in and outside of California.

**TABLE 3.7-1  
 PG&E-OWNED ELECTRICITY-GENERATING SOURCES (2022)**

| Source   | Generating Capacity (MW) |
|--|--------------------------|
| Nuclear (Diablo Canyon—two reactors)                                 | 2,240                    |
| Hydroelectric  | 3,857                    |
| Fossil Fuel–Fired  | 1,400                    |
| Fuel Cell  | 183                      |
| Solar Photovoltaic (13 units—12 in Fresno County, 1 in Kings County) | 152                      |
| <b>Total</b>   | <b>7,832</b>             |

NOTES: MW = megawatts; PG&E = Pacific Gas and Electric Company  
 SOURCE: PG&E 2023

### Renewable Energy Resources

California law requires load-serving entities such as PG&E to gradually increase the amount of renewable energy they deliver to their customers. This program, known as the Renewables Portfolio Standard (RPS) program, established a requirement that most load-serving entities deliver at least 33 percent of their total annual retail sales as renewable energy by 2020. The requirements for renewable energy increase to at least 60 percent by 2030 and 100 percent by 2045.

Renewable generation resources, for purposes of the RPS program, include bioenergy such as biogas and biomass, certain hydroelectric facilities (30 MW or less), wind, solar, and geothermal energy. As shown in **Table 3.7-2**, during 2022, 40 percent of PG&E’s energy deliveries were from renewable energy sources (PG&E 2023).

**TABLE 3.7-2  
PG&E 2022 RENEWABLE ENERGY SOURCES**

| Source                     | Percent of Total Energy Portfolio |
|----------------------------|-----------------------------------|
| Solar                      | 24                                |
| Wind                       | 9                                 |
| Bioenergy                  | 5                                 |
| Geothermal                 | –                                 |
| RPS-Eligible Hydroelectric | 2                                 |
| <b>Total</b>               | <b>40</b>                         |

NOTES: PG&E = Pacific Gas and Electric Company; RPS = Renewables Portfolio Standard

SOURCE: PG&E 2023

### Electricity Consumption

**Table 3.7-3** shows electricity consumption by sector in the PG&E service area based on the latest available data from the California Energy Commission (CEC). As shown in the table, PG&E delivered approximately 78 billion kilowatt-hours (kWh) in 2021, of which approximately 10 billion kWh were consumed by the industrial sector.

**TABLE 3.7-3  
ELECTRICITY CONSUMPTION BY SECTOR IN THE PG&E SERVICE AREA (2021)**

| Agricultural and Water Pump                         | Commercial Building | Commercial Other | Industry | Mining and Construction | Residential | Streetlight | Total Usage |
|---|---------------------|------------------|----------|-------------------------|-------------|-------------|-------------|
| <b>All Usage Expressed in Millions of kWh (GWh)</b> |                     |                  |          |                         |             |             |             |
| 7,446   | 26,009              | 3,869            | 9,959    | 1,764                   | 29,229      | 310         | 78,587      |

NOTES: GWh = gigawatt-hours; kWh = kilowatt-hours; PG&E = Pacific Gas and Electric Company;

SOURCE: CEC 2023b

In Fresno County, approximately 8.4 billion kWh of electricity was consumed in 2021, with approximately 5.2 billion kWh consumed by nonresidential uses (CEC 2023c).

### Transportation Fuels

Gasoline and diesel, both derived from petroleum (or crude oil), are the two most common fuels used for vehicular travel. The annual transportation fuel consumption of diesel and gasoline in 2022 in California was approximately 3,170 million gallons and 13,919 million gallons, respectively (CDTFA 2023a, 2023b). Transportation fuel consumption of diesel and gasoline for Fresno County in 2021 was 182 million gallons and 387 million gallons, respectively (CEC 2023d).

The State of California is now working to develop flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to

improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled. Accordingly, diesel and gasoline consumption in California has declined. The CEC predicts that demand for gasoline will continue to decline over the next 10 years and, during that time frame, there will be an increase in the use of alternative fuels (CEC 2018).

### ***Project Site Existing Energy Use***

The Project site currently has limited use of energy. The site is currently used for agricultural purposes. The only energy usage under baseline conditions consists of fuel use to power agricultural equipment, farmworker automobiles, and trucks, and indirect electricity usage for irrigation of some of the existing crops.

### **3.7.1.3 Regulatory Setting**

#### ***Federal***

##### **Energy Conservation Policy Act**

The National Energy Conservation Policy Act (NECPA) (U.S. Code [USC] Title 42, Section 8201 et seq. [42 USC 8201 et seq.]) serves as the underlying authority for federal energy management goals and requirements and is the foundation of most federal energy requirements. NECPA established energy-efficiency standards for consumer projects and includes, among other things, energy-efficiency standards for new construction. Furthermore, the NECPA established fuel economy standards for on-road motor vehicles in the United States. The National Highway Traffic and Safety Administration (NHTSA), which is part of the U.S. Department of Transportation, is responsible for establishing additional vehicle standards and revising existing standards under the NECPA. The U.S. Department of Transportation is authorized to assess penalties for noncompliance.

##### **Energy Policy Act of 2005**

The Energy Policy Act of 2005 (42 USC 13201 et seq.) sets equipment energy efficiency standards and seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand on these resources. For example, under the act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; and constructing energy-efficient buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

##### **Energy and Independence Security Act of 2007**

The Energy and Independence Security Act of 2007 (42 USC 17001) sets federal energy management requirements in several areas, including energy reduction goals for federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use, including by

setting automobile efficiency standards, and increase in alternative fuel use. This act also amends portions of the NECPA, described above.

### **Corporate Average Fuel Economy Standards**

NHTSA's Corporate Average Fuel Economy standards regulate how far vehicles must be able to travel on a gallon of fuel. NHTSA sets the Corporate Average Fuel Economy standards for passenger cars and for light trucks (collectively, *light-duty vehicles*), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. Over more than 30 years, this regulatory program has resulted in improved fuel economy throughout the United States' vehicle fleet (NHTSA 2014, 2019).

## **State**

### **Warren-Alquist Act**

The 1975 Warren-Alquist Act (Public Resources Code Section 25000 et seq.) established the California Energy Resources Conservation and Development Commission, now known as the CEC. The act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The act was also the driving force behind the creation of Appendix F, *Energy Conservation*, to the CEQA Guidelines.

### **California Integrated Energy Policy**

Public Resources Code Section 25301(a) requires the CEC to develop an integrated energy plan at least every 2 years for electricity, natural gas, and transportation fuels. The plan calls for the State of California to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including increasing targets for the deployment of battery energy storage in California.

An overarching goal of the resulting Integrated Energy Policy Report is to achieve the statewide GHG emission reduction targets, while improving overall energy efficiency. See, for example, the CEC's 2021 Integrated Energy Policy Report, which includes integration of increasing amounts of renewable energy resources as a key component paired with energy storage with generation projects (CEC 2022a). This report assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; ensure reliable, secure, and diverse energy supplies; and enhance the state's economy.

### **Renewables Portfolio Standard**

The State of California adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable resources. The standards are referred to as the RPS. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. Utility providers are required to have 60 percent of their energy portfolio supplied by renewable energy sources by

2030 (CPUC 2021a). Under RPS, utilities are encouraged to develop their own energy storage to integrate eligible renewable energy sources.

### **Energy Storage**

The CPUC set an energy storage procurement framework with a 1,325 MW storage target by 2020 for investor-owned utilities, as required by Assembly Bill (AB) 2514 (2010). AB 2514 also set the energy storage procurement target for each electric service provider and community choice aggregator at 1 percent of its 2020 annual peak load. The three major investor-owned utilities in the state, including PG&E, have exceeded the AB 2514 target of 1,325 MW and satisfied nearly all domain-specific requirements. AB 2868 (2016) requires California's three major investor-owned utilities to propose programs and investments for up to an aggregate of 500 MW (166.6 MW each) of distributed energy storage systems, above and beyond the 1,325 MW general target for energy storage (CPUC 2021b).

### **Title 24 Building Energy Efficiency Standards**

Title 24, Part 6, of the California Code of Regulations (Cal. Code Regs.) is the California Building Code, which governs all aspects of building construction. Included in Part 6 of the Building Code are standards mandating energy efficiency measures in new construction. Since their establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and associated costs in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective January 1, 2023. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local planning and permits processes (CEC 2022b).

### **Construction Equipment Idling**

The California Air Resources Board has also adopted a regulation for in-use off-road diesel vehicles that is designed to reduce emissions from diesel-powered construction vehicles by imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to no more than 5 minutes. In addition to reducing emissions, this regulation also reduces the use of diesel fuel.

## ***Local***

### ***Fresno County General Plan***

The Fresno County General Plan does not contain energy conservation-related goals, mandates, programs, or policies relating to utility infrastructure projects (Fresno County 2000).



## 3.7.2 Significance Criteria

The Project would result in significant impacts related to energy if it would:

- a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation; or
- b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

## 3.7.3 Direct and Indirect Effects

### 3.7.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. While none of the actions specifically targets potential impacts to energy resources, one or more among them could result in a benefit to such resources. For example, the actions described in Section 2.5.9.1, *Glare and Lighting*, could reduce unnecessary electricity consumption by nighttime lighting.

### 3.7.3.2 Methodology

Consistent with Public Resources Code Section 21100(b)(3), this impact analysis evaluates the potential for the Project to result in a substantial increase in energy demand and/or wasteful use of energy during Project construction, operation and maintenance, and decommissioning. The impact analysis is informed by Appendix F of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether construction, operation and maintenance, and decommissioning energy use estimates for the Project would be considered excessive, wasteful, or inefficient, considering that the Project would provide energy storage. GHG emissions estimated for Project-related combustion of diesel and gasoline were used to estimate the associated fuel volumes discussed in this analysis. For an analysis related to Project GHG emissions estimates, see Section 3.9, *Greenhouse Gas Emissions*.

### 3.7.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

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**Impact 3.7-1: Project construction, operation and maintenance, and/or decommissioning and site reclamation would not result in the wasteful, inefficient, or unnecessary consumption or use of energy. (*Less than Significant*)**

The analysis summarized in this section utilizes the assumptions identified in Appendix D1, *Air Quality and Greenhouse Gas Study*, to estimate the total energy requirements of the Project by fuel type and end use as recommended by CEQA Guidelines Appendix F. Because the technical

report does not display the amount and fuel type for construction-related sources, additional calculations were conducted to estimate Project-related fuel use volumes that are summarized below and provided in Appendix D2, *Fuel Use Calculations*.

The Project would use no natural gas for construction, operation and maintenance, or decommissioning. Therefore, the Project would have no impact on natural gas supplies. Below are discussions of the fuel and electricity usage that would be associated with the Project.

### **Construction and Decommissioning**

Construction and future decommissioning of the Project would result in fuel consumption from the use of construction tools and equipment, vendor truck trips, and vehicle trips generated from workers traveling to and from the Project site. The Applicant estimates that the construction phase of the Lithium-Ion Battery option would take a total of 76 months to complete, and construction of the Lithium Ion with Iron Flow Battery option would take a total of 68 months to complete. The volume of diesel and gasoline fuels that would be consumed during construction of both battery scenarios were calculated using the estimated GHG emissions for the Project. Construction of the Lithium-Ion Battery option is expected to consume a total of approximately 1,104,625 gallons of diesel fuel from construction equipment and truck trips, and approximately 109,747 gallons of gasoline from construction worker vehicle trips. Project fuel use during construction for this option would represent approximately 0.6 percent of diesel and 0.03 percent of gasoline sold in Fresno County in 2021 (CEC 2023d, Appendix D2). For the Lithium Ion Battery with Iron Flow option, construction is expected to consume a total of approximately 972,344 gallons of diesel fuel from construction equipment and truck trips, and approximately 108,087 gallons of gasoline from construction worker vehicle trips. Construction of this option would represent approximately 0.5 percent of diesel and 0.03 percent of gasoline sold in Fresno County in 2021 (CEC 2023d, Appendix D2). Overall, the fuel use during construction would be minimal in comparison to overall fuel use in the county.

Construction activities for the Project would comply with state and local regulations, such as those included in 13 Cal. Code Regs. 2485 and 2449 that require equipment and commercial vehicle operators to limit idling to no more than 5 minutes. Compliance with the state's regulation for in-use off-road diesel vehicles would ensure that fuel energy consumed during the construction phase would not be wasted through unnecessary idling. Therefore, energy use would not be wasteful, inefficient, or unnecessary during construction of the Project and the impact would be less than significant.

When the Project becomes decommissioned, the site would be returned to a stable condition comparable to pre-Project conditions in accordance with applicable land use regulations in effect at that time via the implementation of a County-approved reclamation plan. These activities would occur over a period of 2 years and would include the use of similar equipment to construction activities; therefore, similar impacts would be expected. Decommissioning activities and corresponding fuel and energy consumption would be temporary and, for the purposes of this analysis, conservatively is assumed to be comparable to the construction-related fuel demand even though the duration would be shorter and number of Project-related trips reduced for decommissioning and site reclamation than for construction. This would not represent a

substantial demand on energy resources and would be contributing to the integration of renewable energy in California. Thus, equipment used for energy consumption by the Project's construction and decommissioning would not result in inefficient, wasteful, or unnecessary energy use, and the impact would be less than significant.

### **Operation and Maintenance**

Electricity would be required during operation and maintenance, such as for lighting and to power temperature control for the batteries. For both battery scenarios, the total annual electricity consumption for the battery storage facility would be up to approximately 63,346 kWh per year. This would represent approximately 0.001 percent of electricity consumed by nonresidential uses in Fresno County in 2021 (CEC 2023c) and would not constitute a wasteful, inefficient, or unnecessary use of energy.

During the operation and maintenance of the Project, an uninterrupted power supply would provide electricity to the battery storage facility. In the event that a power outage occurs, the uninterrupted power supply would provide the energy storage facility with a certain amount of run time based on temporary energy storage. The uninterrupted power supply is not a fossil fuel-powered generator.

Operation and maintenance of the Project would require the use of light-duty trucks and other light equipment for maintenance. Large or heavy equipment may be brought to the Project site for equipment repair or replacement. It was conservatively estimated that the Project would require 4 truck trips per day at maximum to conduct routine maintenance and at least 1 week of annual maintenance activities with 8 workers per day for major maintenance inspections (Appendix D1). The associated diesel fuel consumption would be minimal in comparison to the overall county use. Gasoline would likely be required for Project workers commuting to and from the Project site. This usage would be relatively small in comparison to the overall gasoline use in Fresno County and would not be considered an inefficient use of fuel, given that it would be associated with enhancing the reliability and resilience of the electrical grid. Thus, although irreversible commitments of small quantities of nonrenewable resources would occur during operation of the Project, the amount of diesel and gasoline fuel consumed during Project operation would be relatively minimal and would not be considered an inefficient use. Therefore, the overall energy demand during operations would not constitute a wasteful, inefficient, or unnecessary use of energy, and the overall impact would be less than significant.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

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Energy standards summarized in Section 3.7.1.3, *Regulatory Setting*, such as the Energy Policy Act of 2005, RPS, and Title 24, promote strategic planning and building standards that reduce consumption of fossil fuels, increase use of renewable resources, and enhance energy efficiency. In general, these regulations and policies specify strategies to reduce fuel consumption and increase fuel efficiencies and energy conservation. If the Project were to use energy resources in a

wasteful manner, it would conflict with state energy standards. Construction, operation and maintenance, and decommissioning would be conducted in a manner consistent with the goals and strategies of state energy standards. Compliance with the state's regulation for in-use off-road diesel vehicles that requires idling limitations to no more than 5 minutes would ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling. Project construction and decommissioning would be short-term and would not result in the permanent increased use of nonrenewable energy resources.

There would be a minor increase in demand for electricity during the construction and operation phase of the Project. However, this would not conflict with long-term goals of the RPS Plan, as the energy utilized on-site would be provided by PG&E, which is required to comply with the RPS. Overall, the Project would increase the efficiency of the existing transmission network while utilizing the energy generated for the PG&E system that would be compliant with the RPS. Increasing the efficiency of the existing transmission network would improve California's ability to supply renewable energy to end-use customers specifically within the greater PG&E service area and to achieve statewide renewable energy goals. Additionally, when considering the implementation of the state RPS program, the Project would not prevent renewable energy sources from being used as a source of electricity in the future. By creating a new source of energy storage that can aid in the integration of eligible renewable energy sources, the Project would be compliant with the battery storage targets in the RPS program, as well as AB 2868 and the California Integrated Energy Policy.

Project operation would include ongoing maintenance activities that would require the use of trucks and equipment that use nonrenewable fuels. Fuel use for Project operation and maintenance would be minimal, requiring a negligible percentage of the overall fuel supplied to the Fresno County area. Operation and maintenance fuel use associated with the Project would be neither wasteful nor inefficient and would not conflict with current energy conservation standards. There would be no impact under this criterion. (*No Impact*)

### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project, above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

**Mitigation:** None required.

### 3.7.4 Cumulative Effects Analysis

As discussed in Section 3.7.3, *Direct and Indirect Effects of the Project*, the Project would cause no impact due to a conflict with or obstruction of a state or local plan for renewable energy or energy efficiency. Therefore, it could not cause or contribute to any cumulative impact related to this consideration.

**Impact 3.7-2: The Project would not cause or contribute to a significant cumulative effect due to the wasteful, inefficient, or unnecessary consumption or use of energy. (*Less than Significant*)**

The geographic context for potential cumulative impacts related to electricity is PG&E's service area, and for equipment and vehicle fuel use the geographic context is within the Project's construction equipment delivery and workers' average travel radius, because these are the areas within which energy resources would be demanded and supplied for the Project. The Project would use energy resources during initial construction, operation and maintenance, and decommissioning; therefore, it could contribute to potential cumulative impacts during any of these phases.

Regarding electricity, there is no existing significant adverse condition that would be worsened or intensified by the Project or an alternative. To the contrary, both the Project and the alternatives would provide additional energy storage that could serve the cumulative demand, address the limitations of the electric grid, and support overall grid stability and resiliency. No significant adverse cumulative effect would result related to electricity use; instead, a beneficial cumulative impact on energy resources would result. The Project's incremental construction-related less-than-significant impact would be followed by decades of operation during which the Project would provide additional energy storage that could serve cumulative demand. Additionally, the proposed energy storage system could contribute to electrical grid reliability and assist PG&E in meeting its obligations under state energy targets. Because the Project overall would have a beneficial cumulative impact on energy resources, it would not result in a cumulatively considerable contribution to any adverse significant impact in this regard.

Similarly, regarding the efficiency of fuel use, there is no existing significant adverse condition (such as a shortage) that would be worsened or intensified by the Project or an alternative. Past, present, and reasonably foreseeable future projects near the Project site could require gasoline or diesel, but such projects' fuel demands would not combine with the fuel demands of the Project to cause a significant adverse cumulative impact related to the wasteful, inefficient, or unnecessary consumption or use of fuel. The Project would increase the deployment of battery storage, thus contributing to the resilience and reliability of the electric grid. Under these conditions, the Project's less-than-significant impact related to wasteful, inefficient, or unnecessary consumption or use of fuel would not be cumulatively considerable.

**Mitigation:** None required.

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## 3.8 Geology, Soils, and Paleontological Resources

This section identifies and evaluates issues related to geology, soils, and paleontological resources, including seismicity, erosion, geologic stability and features (including paleontological features), and expansiveness and other characteristics of soils that could indicate risks to life or property. This section includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to geology, soils, or paleontological resources (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on the site-specific geotechnical analysis prepared on the Applicant's behalf (**Appendix G1**, *Geology and Geohazards Desktop Review* and **Appendix G2**, *Paleontological Resources Technical Report*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed these and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.8.1 Setting

#### 3.8.1.1 Study Area

The study area for this analysis of potential impacts related to geology, soils, and paleontological resources encompasses and is limited to the Project site and its immediately adjacent area, with the exception of seismic impacts. This is because Project impacts relative to geology, soils, and paleontological resources are generally site-specific and depend on the nature of the existing geologic and soil units. For example, erosion impacts would be limited to the Project site and possibly the immediately adjacent properties. For seismic impacts, the study area extends to the San Andreas Fault Zone, located approximately 30 miles to the west of the Project site. This extent of the study area is because seismic shaking from active faults, such as the San Andreas Fault Zone, could adversely impact the Project site.

The PG&E Midway Substation property is not included in the study area for geology, soils, and paleontological resources because the proposed activities would consist only of minor modifications (replacement and upgrades) to equipment within the existing facility that would not require any ground disturbance.

#### 3.8.1.2 Environmental Setting

##### ***Regional Geology***

The Project site is approximately 4.2 miles southwest of the city of Huron in unincorporated Fresno County in the San Joaquin Valley. The Project site is within the southern portion of the Great Valley Geomorphic Province, which is an alluvial plain approximately 50 miles wide and 400 miles long in central California. The Great Valley is a basin in which there has been almost continuous deposition since the Late Jurassic Period (approximately 160 million years ago) and is filled with sediments eroded from the Sierra Nevada and the Coast Ranges.

The topography at the Project site is relatively flat (Appendix G1), with the elevation varying from approximately 411 feet to 418 feet above mean sea level (Google Earth 2021).

### **Local Geology**

Geologic mapping by Jennings and Strand (1958) and Dibblee and Minch (2007) indicates that the surficial geology at the Project site is entirely Holocene-age alluvium (mapped as Holocene-age fan deposits by Jennings and Strand).<sup>1</sup> These deposits consist primarily of gravel, sand, and clay that is found in valley areas (Jennings and Strand 1958; Dibblee and Minch 2007; Appendix G2). Older, Pleistocene-age deposits are not mapped at the surface within the Project site but are mapped approximately 200 feet to the west and southwest (Jennings and Strand 1958; Dibblee and Minch 2007; Appendix G2).<sup>2</sup> The Pleistocene-age deposits are mapped by Jennings and Strand as Pleistocene nonmarine deposits (Jennings and Strand 1958) and by Dibblee and Minch as nonmarine Tulare Formation (Dibblee and Minch 2007).

### **Geologic and Seismic Hazards**

#### **Earthquake Faults and Seismicity**

There are no known Holocene-active<sup>3</sup> faults or pre-Holocene<sup>4</sup> faults within the Project site (CGS 2010). Multiple fault systems are present in the region outside of the Project site (CGS 2010). The closest known Holocene-active faults are the Great Valley 13 (GV 13) and Great Valley 14 (GV 14) faults of the Great Valley thrust fault system<sup>5</sup>; GV 13 is approximately 1.1 miles northeast of the Project site and GV 14 is inferred to possibly underlie the southern portion of the Project site (USGS 2021). However, thrust faults do not necessarily show surface evidence of their presence and it is unknown whether this thrust fault does in fact underlie the Project site. Two other active fault systems near the Project site are the Nunez fault zone and Creeping Section of the San Andreas fault zone, approximately 18 miles northwest and 28 miles southwest of the Project site, respectively (CGS 2022).

#### **Fault Rupture**

The Project site is not within an established Earthquake Fault Zone (EFZ) as delineated on an EFZ Map, required by the Alquist-Priolo Earthquake Fault Zoning Act. The nearest EFZs are the Nunez and San Andreas fault zones, 18 miles and 28 miles away, respectively (CGS 2021).

The California Earthquake Hazards Zone Application (EQ Zapp) is an interactive map available on the California Geological Survey (CGS) website. The EQ Zapp allows users to view all available earthquake hazard zone data, including earthquake fault, liquefaction, and earthquake-induced landslide zones. Although there has been historic movement within the Great Valley

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<sup>1</sup> The *Holocene Epoch* is a period of time that spans from the present to 11,700 years ago.

<sup>2</sup> The *Pleistocene Epoch* is a period of time that spans from 11,700 to 2.6 million years ago.

<sup>3</sup> Holocene-active faults show evidence of surface displacement within the Holocene Epoch, or the last 11,700 years, are considered active (CGS 2008).

<sup>4</sup> Pre-Holocene faults have not shown evidence of surface displacement in the last 11,700 years (CGS 2008).

<sup>5</sup> GV 13 and GV 14 are the naming conventions for the specific, individual sections of the Great Valley thrust fault system. The abbreviation “GV” stands for “Great Valley” (i.e., “GV 13” stands for “Great Valley 13 fault”) (USGS 1996).

thrust fault system (1983 Coalinga earthquake) (USGS 1990, 1996), it has not been mapped as an EFZ according to EQ Zapp (CGS 2021). This may be due to the fact that there was no surface rupture associated with the 1983 Coalinga earthquake event (USGS 1990; Terracon 2022), and the location of the fault is inferred, as noted previously. Faults are designated EFZ if they display evidence of surface rupture within the last 11,700 years (CGS 2018).

### Ground Shaking

Ground shaking due to fault rupture is widely known to cause extensive damage to life and property. The extent of the damage varies by event and is determined by several factors, such as magnitude and depth of the earthquake, distance from epicenter, duration and intensity of the shaking, underlying soil and rock types, and integrity of structures.

There is a potential for strong seismic ground shaking because of the presence of the nearby Great Valley thrust, Nunez, and San Andreas fault systems. The 2014 Working Group on California Earthquake Probabilities<sup>6</sup> (WGCEP) concluded that there is a 95 percent probability that a magnitude ( $M_w$ ) 6.7 earthquake or higher could occur in Northern California within the next 30 years (from the time of publication of the study), with the San Andreas fault zone as a likely source (Field et al. 2015).

According to the ShakeMap, which corresponds with the earthquake planning scenario generated by the U.S. Geological Survey (USGS), if a  $M_w$  6.6 event were to occur on the Great Valley 11 fault, the Project site may experience strong to very strong ground shaking, with moderate to heavy damage expected (USGS 2016). These data were based on the actual 1983 Coalinga earthquake event, in which the initial shock of the earthquake was felt as far away as San Francisco and Los Angeles (USGS 1990).

### Liquefaction and Lateral Spreading

*Liquefaction* is a phenomenon in which unconsolidated, water saturated sediments become unstable due to the effects of strong seismic shaking. During an earthquake, these sediments can behave like a liquid, potentially causing severe damage to overlying structures. *Lateral spreading* is a variety of minor landslide that occurs when unconsolidated liquefiable material breaks and spreads due to the effects of gravity, usually down gentle slopes. *Liquefaction-induced lateral spreading* is defined as the finite, lateral displacement of gently sloping ground as a result of pore-pressure buildup or liquefaction in a shallow underlying deposit during an earthquake. The occurrence of this phenomenon is dependent on many complex factors, including the intensity and duration of ground shaking, particle-size distribution, and density of the soil.

The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of structure slabs due to sand boiling, and buckling of deep foundations due to ground settlement. *Dynamic settlement* (i.e., pronounced consolidation and settlement from seismic shaking) may also occur in loose, dry sands above the water table, resulting in settlement of and possible damage to overlying

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<sup>6</sup> Also referred to as WGCEP 2014, this is a working group composed of seismologists from the USGS, CGS, Southern California Earthquake Center, and California Earthquake Authority.

structures. In general, a relatively high potential for liquefaction exists in loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table). Lateral spreading can move blocks of soil, placing strain on buried pipelines that can lead to leaks or pipe failure.

According to the EQ Zapp, the Project site is not within or near any known liquefaction zone (CGS 2021). Additionally, according to monitoring well data (from a well approximately 12 miles to the northeast of the Project site), the measured depth to groundwater was 39.97 feet below ground surface (bgs) in October 2005 (Appendix G1). Groundwater fluctuations can occur due to seasonal variations in rainfall, runoff, and other factors; therefore, groundwater levels at the Project site may be higher or lower than expected during construction. Due to the well-drained soils and deep groundwater, the liquefaction risk at the Project site is considered low (Appendix G1).

### **Landslides**

*Landslides* are one of the various types of downslope movements in which rock, soil, and other debris are displaced due to the effects of gravity. The potential for material to detach and move down slope depends on multiple factors including the type of material, water content, and steepness of terrain.

Landslides and other slope failures are not anticipated at the Project site due to the relatively flat surrounding area (Appendix G1). Based on Google Earth imagery, there are no signs of previous landslides within or around the Project site. Additionally, based on a review of geologic maps of the area, there are no mapped historical landslides in the vicinity of the Project site (Jennings and Strand 1958; Dibblee and Minch 2007).

### **Subsidence and Ground Settlement**

*Land subsidence* is the gradual settling or sudden sinking of the earth's surface due to subsurface movement of earth materials (USGS 1999). Subsidence in alluvial valley areas is typically associated with groundwater or petroleum withdrawal, and regional ground subsidence or settlement is typically caused by compaction of alluvial deposits, or other saturated deposits in the subsurface (USGS 1999).

The San Joaquin Valley has a history of land subsidence due to groundwater pumping and related compaction of sand and clay layers in Valley sediments. The Project site is in an area that has experienced moderate land subsidence in the past (Sneed et al. 2018). Based on data from the USGS Central Valley Drought Indicators interactive map, a subsidence of approximately 25 millimeters was observed at the Project site between 2008 and 2010 (Appendix G1).

### **Soil Types**

Soils on the Project site are classified as Kimberlina sandy loam, Westhaven loam, and Wasco sandy loam (see Appendix G1). Kimberlina is a coarse soil averaging 5 to 20 percent clay, Westhaven averages 18 to 35 percent clay, and Wasco is a coarse-loamy soil. These soil series represent a range of non- to moderately plastic soils with mixed coarse-grained textures.

## Expansive Soils

*Expansive soils* are soils that possess a “shrink-swell” characteristic, also referred to as *linear extensibility*. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying; the volume change is reported as a percent change for the whole soil. This property is measured using the coefficient of linear extensibility (COLE) (NRCS 2017). The U.S. Natural Resources Conservation Service (NRCS) relies on linear extensibility measurements to determine the shrink-swell potential of soils. If the linear extensibility percent is more than 3 percent (COLE=0.03), shrinking and swelling may cause damage to buildings, roads, and other structures (NRCS 2017). Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater.<sup>7</sup> Expansive soils are typically very fine-grained and have a high to very high percentage of clay. Structural damage may occur incrementally over a long period of time, usually as a result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

The Geology and Geohazards Desktop Review prepared for this Project indicates that the Project site is not mapped within moderately high or high soil expansion potential soils (Appendix G1). The NRCS Web Soil Survey data reflect this finding as well; the linear extensibility rating for the soils underlying the Project site is between 2.0 and 3.2 percent, indicating a low to moderate soil expansion potential (NRCS 2022).

## Paleontological Resources

*Paleontological resources* are the fossilized remains or impressions of plants and animals, including vertebrates (animals with backbones; e.g., mammals, birds, fish), invertebrates (animals without backbones; e.g., starfish, clams, coral), and microscopic plants and animals (microfossils). They are valuable, nonrenewable scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. Fossils can be used to determine the relative ages of the depositional layers in which they occur and of the geologic events that created those deposits. The age, abundance, and distribution of fossils depend on the geologic formation in which they occur and the topography of the area in which they are exposed. The geologic environments within which the plants or animals became fossilized usually were quite different from the present environments in which the geologic formations now exist.

The Paleontological Resources Assessment Report for this Project identifies and summarizes paleontological resources that may occur in and around the Project site (Appendix G2). The analysis provided in the report is based on a review of the available paleontological literature and geologic maps, as well as a record search of the paleontological collections at the Natural History Museum of Los Angeles County (NHMLA).

Based on geologic mapping, the surficial geology at the Project site consists of Holocene-age alluvium, with older, Pleistocene-age nonmarine deposits (Tulare Formation) mapped

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<sup>7</sup> *Perched groundwater* is a local saturated zone above the water table that typically exists above an impervious layer (such as clay) of limited extent.

approximately 200 feet to the southwest of the Project site (Appendix G2). Based on geologic mapping, the Pleistocene-age deposits are present in the subsurface at a conservatively estimated depth of approximately 10 feet bgs (Appendix G2). The record search from NHMLA indicates that there are no paleontological resources within the Project site. However, based on records search results from NHMLA, deposits that date to the Pleistocene Epoch are known to produce scientifically significant paleontological resources in Fresno County (Appendix G2).

The University of California Museum of Paleontology (UCMP) fossil locality online database also indicates that there are no fossil localities within the Project site. The search does indicate that 10 vertebrate fossils have been discovered in Holocene-age sediments and 163 vertebrate fossils have been discovered in Pleistocene-age sediments in Fresno County (UCMP 2022a). The nearest fossil locality is approximately 14 miles northwest of the Project site in Coalinga, California (O'Dell et al. 2017; UCMP 2022a). Another notable fossil site is approximately 34 miles north-northwest of the Project site, in the town of Tranquillity (Hewes 1946; UCMP 2022a). Additionally, the UCMP records indicate that there are 52 fossil localities (14 vertebrate, 37 invertebrates, and 2 plant fossil localities) within Tulare Formation deposits throughout California (Alameda, Fresno, Kern, Kings, San Bernardino, San Joaquin, and Stanislaus counties) (UCMP 2022b).

In general, Holocene-age deposits have a low potential to contain significant paleontological resources due to the relatively young age (less than 11,700 years old) of those deposits (SVP 2010; Appendix G2), however, Holocene-age fossils have been discovered in Fresno County (O'Dell et al. 2017; UCMP 2022a). Conversely, Pleistocene-age sedimentary deposits are generally considered to have a moderate to high potential to contain significant paleontological resources due to their age and because there have been numerous similar finds in Fresno County (Hewes 1946; Dundas et al. 1996; Trayler 2012; Appendix G2), and throughout California (Jefferson 1991a, 1991b; SVP 2010; Sub Terra Consulting 2017; Appendix G2).

While no records of paleontological resources were identified within the Project site, the presence of nearby Holocene and Pleistocene-age fossil discoveries indicates that the potential exists to encounter paleontological resources. As mentioned previously, Holocene-age deposits generally have a low potential to contain significant paleontological resources, so the deposits underlying the Project site have a low potential from 0 to 10 feet bgs (Appendix G2). Generally, Pleistocene-age deposits are considered to have a moderate to high potential to contain significant paleontological resources; however, because the Pleistocene-age deposits underlying the Project site are only estimated to occur at 10 feet bgs and below, these deposits have a potential to contain significant paleontological resources below 10 feet (Appendix G2).

### **3.8.1.3 Regulatory Setting**

#### ***Federal***

No federal regulations related to geology, soils, or paleontological resources apply to the Project.

## **State**

### **Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was enacted in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called “earthquake fault zones,” around the surface traces of Holocene-active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of Holocene-active faults. Each earthquake fault zone extends approximately 200–500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches.

### **Seismic Hazards Mapping Act**

The Seismic Hazards Mapping Act was enacted in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the Seismic Hazards Mapping Act requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The CGS *Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) provide guidance for evaluating and mitigating seismic hazards (CGS 2008). The CGS is producing official maps based on USGS topographic quadrangles. However, to date, the CGS has not completed a delineation for the USGS quadrangle in which Project components are proposed.

### **California Building Code**

The California Building Code (CBC), codified in Title 24, Part 2 of the California Code of Regulations, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. The California Building Standards Commission administers Title 24, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California, and would apply to structures proposed on the Project site.

Relevant to the Project, Chapter 18 of the CBC covers the requirements of geotechnical investigations, including expansive soils (Section 1803); excavation, grading, and fills (Section 1804); load-bearing of soils (Section 1806); and foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). Chapter 18 requires analysis of slope

instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses mitigation measures to be considered in structural design, which may include ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. For a given project, a preliminary geotechnical report based on the initial design is prepared and may be considered as part of the CEQA process. For this Project, the site-specific Geology and Geohazards Desktop Review prepared by Rincon Consultants, Inc. (October 2022) on the Applicant's behalf is included in Appendix G1.

### **National Pollutant Discharge Elimination System Construction General Permit**

Construction of the Project, including the interconnection infrastructure described in Section 2.5.10 of Chapter 2, *Project Description*, would disturb more than 1 acre of land surface affecting the quality of stormwater discharges into waters of the United States. The Project would therefore be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the United States from construction sites that disturb 1 acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards.
- Good site management “housekeeping.”
- Non-stormwater management.
- Erosion and sediment controls.
- Run-on and runoff controls.
- Inspection, maintenance, and repair.
- Monitoring and reporting requirements.



The Construction General Permit requires the development and implementation of a storm water pollution prevention plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the Clean Water Act Section 303(d) list of impaired waters on the basis of its sediment load.

The SWPPP must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project area. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the Project area, the Construction General Permit is implemented and enforced by the Central Valley Regional Water Quality Control Board, which administers the stormwater permitting program. Dischargers must electronically submit a notice of intent and permit registration documents to obtain coverage under this Construction General Permit. Dischargers are to notify the Central Valley Regional Water Quality Control Board of violations or incidents of noncompliance and to submit annual reports identifying deficiencies in the BMPs and explaining how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer, and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A legally responsible person, who is legally authorized to sign and certify permit registration documents, is responsible for obtaining coverage under the permit.

## **Local**

### **2000 Fresno County General Plan**

**Goal OS-J:** To identify, protect, and enhance Fresno County’s important historical, archeological, paleontological, geological, and cultural sites and their contributing environment.

**Policy OS-J.1:** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.

**Policy OS-J.9:** In approving new development, the County shall ensure, to the maximum extent practicable, that the location, siting, and design of any project be subordinate to significant geologic resources.

**Goal HS-D:** To minimize the loss of life, injury, and property damage due to seismic and geologic hazards.

**Policy HS-D.2:** The County shall ensure that the General Plan and/or County Ordinance Code is revised, as necessary, to incorporate geologic hazard areas formally designated by the State Geologist (e.g., Earthquake Fault Zones and Seismic Hazard Zones). Development in such areas, including public infrastructure projects, shall not be allowed until compliance with the investigation and mitigation requirements established by the State Geologist can be demonstrated.

**Policy HS-D.3:** The County shall require that a soils engineering and geologic-seismic analysis be prepared by a California-registered engineer or engineering geologist prior to permitting development, including public infrastructure projects, in areas prone to geologic or seismic hazards (i.e., fault rupture, ground shaking, lateral spreading, lurchcracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche).

**Policy HS-D.4:** The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.

**Policy HS-D.5:** Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code, Chapter 7.5), the County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.

**Policy HS-D.7:** The County shall ensure compliance with State seismic and building standards in the evaluation, design, and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, large public assembly halls, and other structures subject to special seismic safety design requirements.

**Policy HS-D.8:** The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high “expansive” or “shrink-swell” properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.

**Policy HS-D.9:** The County shall seek to minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where feasible, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.

**Policy HS-D.15:** The County Board of Review or other subsequently appointed body shall serve as the review body on appeals from seismic and geologic hazard requirements.

## 3.8.2 Significance Criteria

The Project would result in significant impacts to geology, soils, and paleontological resources if it would:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;
  - ii. Strong seismic ground shaking;
  - iii. Seismic-related ground failure, including liquefaction;
  - iv. Landslides;
- b) Result in substantial soil erosion or the loss of topsoil;
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- d) Be located on expansive<sup>8</sup> soil creating substantial direct or indirect risks to life or property;
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

## 3.8.3 Direct and Indirect Effects

### 3.8.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts on a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to the analysis

<sup>8</sup> The CBC, based on the International Building Code and the now-defunct Uniform Building Code, no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

below. Based on the Applicant's commitment in Section 2.5.9.8, this analysis assumes that construction and design of Project components would utilize standard site preparation practices, engineering designs, and seismic safety techniques that are required under the CBC and other state and local geologic hazard-related laws, regulations, and policies summarized in Section 3.8.1.2, *Regulatory Setting*.

Further, the Project has been designed consistent with Low Impact Development standards such as minimizing impermeable surfaces and use of gravel surfacing where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and through bioretention swales that would further slow runoff and facilitate infiltration (see Figure 2-3, *Preliminary Site Plan—Lithium Ion Option*, and Figure 2-4, *Preliminary Site Plan—Lithium Ion and Iron Flow Option*, in Chapter 2, *Project Description*).

### **3.8.3.2 Methodology**

The following impact analysis considers the potential impacts related to geology, soils, seismicity, and paleontological resources associated with the construction, operation and maintenance, and decommissioning of the Project. Compliance by the Project with applicable federal, state, and local laws and regulations and implementation of the other identified Applicant Proposed Measures are assumed in this analysis. Further, local and state agencies are expected to continue to enforce applicable requirements to the extent that they do so now.

In 2015, the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District (CBIA v. BAAQMD)*, 2015, 62 Cal.4th 369, held that CEQA generally does not require a lead agency to consider the impacts of existing environmental conditions on the future occupants or users of a project. However, if a project could exacerbate preexisting environmental hazards or conditions, then the lead agency must analyze the impact of that exacerbated condition on the environment, which may include future occupants and users within the project area. Generally, energy storage projects would not exacerbate existing environmental hazards related to geological and soil conditions. Nonetheless, consistent with past practice, information is presented on geologic hazards that may be of use to the lead agency.

Impacts related to geologic and seismic hazards are considered significant if they would result in injury, structural collapse, unrepairable facility or utility damage, erosion of on-site and off-site areas, or severe service disruption. Impacts on paleontological resources are considered significant if construction of the Project would disturb or destroy significant paleontological resources.

### 3.8.3.3 Direct and Indirect Effects of the Project

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**Criterion a.i)** Whether 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.

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**Impact 3.8-1: The Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. (*Less-than-Significant Impact*)**

Although no active faults designated as Alquist-Priolo fault zones have been mapped across the Project site, sections of the Great Valley thrust fault system (GV 13 and GV 14) that do not display surface rupture are inferred to pass through the Project site area and may pass beneath the Project site. Rupture of an active fault across the Project site could damage the energy storage facility components, resulting in risks to on-site workers and disruption of the electrical energy supply that, secondarily, could cause impacts on the physical environment. During Project construction, the peak daily workforce would be up to approximately 150 workers; on average, there would be fewer workers than this on-site. Construction workers would work 8- to 10-hour days, Monday through Friday. While weekend and overtime construction is not anticipated, it may occasionally be needed. Once constructed, up to seven employees would be present on-site. The workforce needed for decommissioning would be similar to or less than what was needed for construction.

The Project does not include the injection of water or liquid wastes or the extraction of crude oil or natural gas. Therefore, the Project would not directly include activities that could trigger movement along a fault.

During construction, some water would be used for dust suppression, which could be supplied by the on-site water supply well (see Location C on Figure 3.10-1 in Section 3.10, *Hazards and Hazardous Materials*). The volume of water used would range from 35 to 171 acre-feet per year over a period of 68–76 months (see Appendix L, *Water Supply Assessment*). Some of the water would infiltrate back into the underlying aquifer after use for dust suppression. This short-term use would not be anticipated to trigger significant shifting of underlying soil and geologic units; the removal of groundwater would result in less water available that could serve to lubricate fault planes and trigger movement along the fault. During Project operation, the on-site water demand would decrease from construction levels to 1,036 gallons per year or 0.003 acre-feet per year. This short-term use would not be anticipated to trigger significant shifting of underlying soil and geologic units.

Currently available information does not identify the Project site as within or within 0.5 mile of an established EFZ. Accordingly, the Project would not 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 EFZ map. However, potential future surface fault rupture cannot be entirely ruled out along the Great Valley thrust fault system on or near the Project site. The possibility exists for the Project to indirectly cause

potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of the Great Valley thrust fault system, by creating the potential for risks to people or infrastructure from being located near the GV 13 and GV 14 faults during an earthquake. The potential Project-caused risk would be low because the likelihood of surface rupture is low, no Project structures are proposed for human occupancy, a maximum of 120–150 workers could be on-site during construction and decommissioning, and much more limited numbers of workers could be present during operation and maintenance activities.

Because the Project site is not within an established EFZ and does not include activities that would trigger movement along a fault, the potential for the Project to result in impacts related to the risk of loss, injury, or death involving rupture of a known earthquake fault would be less than significant.

**Mitigation:** None required.

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**Criterion a.ii)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

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**Impact 3.8-2: The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. (*Less-than-Significant Impact*)**

Given the proximity of the Project site to the Great Valley thrust, Nunez, and San Andreas fault systems, the Project site is potentially subject to strong seismic ground shaking. Should strong seismic ground shaking occur that affects the Project site, damage to Project structures could result in falling debris that injures site workers or damage to the energy storage system that disrupts service.

As discussed in the context of Impact 3.8-1, the Project does not include the injection of water or liquid wastes and does not include the extraction of crude oil or natural gas. The Project would not include the extraction of groundwater in such a manner that would trigger movement on a fault. Therefore, the Project would not directly include activities that could trigger movement along a fault.

In addition, the Project would be subject to the seismic design criteria of the CBC, which requires that all improvements be constructed to withstand anticipated ground shaking from regional fault sources. The CBC requires that a licensed geotechnical engineer be retained to design the Project components to withstand probable seismically induced ground shaking and consolidate recommendations into a site-specific geotechnical report. In the case of the Project, the Geology and Geohazards Desktop Review (see Appendix G1) provides background information about the Project site, as it relates to geology and potential geotechnical hazards, but does not provide the specific soil engineering and design parameters that would be implemented during construction. The CBC requires that a final geotechnical investigation be performed after Project design plans are finalized and prior to construction, and that a final geotechnical report be completed to

provide engineering and design requirements. All construction would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would comply with the seismic recommendations of a California-registered, professional geotechnical engineer contained in the geotechnical report in accordance with the CBC. The final structural design would be subject to approval and follow-up inspection by the Fresno County Building and Safety Team. Final design requirements would be provided to the on-site construction supervisor and the Fresno County Building Inspector to ensure compliance.

Implementation of the applicable CBC requirements (including design requirements provided in a site-specific geotechnical report) and local agency enforcement would ensure that the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts related to ground shaking during Project construction, operation and maintenance, or decommissioning would be less than significant.

**Mitigation:** None required.

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**Criterion a.iii)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

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**Impact 3.8-3: The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. (*Less-than-Significant Impact*)**

Liquefaction triggered by a seismic event could damage the energy storage system and could result in falling debris that injures site workers or damage to the energy storage system that disrupts electrical service. Available data suggest that the risk of soil liquefaction at the Project site is low. This is in part due to the anticipated absence of groundwater within 50 feet of the ground surface underlying the Project site, which is necessary to liquefy soil during an earthquake. Additionally, data from the CGS EQ Zapp indicates that the Project site is not located within a liquefaction hazard zone.

As discussed in Impact 3.8-2, above, the Project would be subject to the seismic design criteria of the CBC, which requires that all improvements be constructed to withstand potential impacts caused by liquefaction. The CBC requires that a licensed geotechnical engineer be retained to investigate the subsurface conditions at the Project site to determine the liquefaction potential of the underlying soils and consolidate recommendations into a site-specific geotechnical report, to ensure that Project structures are designed to withstand impacts related to liquefaction and other seismic-related ground failures.

Compliance with CBC requirements (including the recommendations provided in a site-specific geotechnical report) would ensure the risks related to liquefaction and seismic-related ground failures would be less than significant.

**Mitigation:** None required.

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**Criterion a.iv)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

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The Project site has a nearly flat topography and a very gentle long slope. There are no mapped landslides on or around the site. For these reasons, there is no potential for landslide hazards at the site. Therefore, the Project would cause no impact from directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. (*No Impact*)

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**Criterion b)** Whether the Project would result in substantial soil erosion or loss of topsoil.

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**Impact 3.8-4: The Project would not result in substantial soil erosion or loss of topsoil. (*Less-than-Significant Impact*)**

Project construction would include ground-disturbing activities that could increase the risk of erosion or sediment transport, such as soil excavation, grading, trenching, and soil stockpiling. Because the overall footprint of construction activities would exceed 1 acre, the Project would be required to comply with the Construction General Permit, described above in Section 3.8.1.3, *Regulatory Setting*. This state requirement was developed to ensure that stormwater is managed, and erosion is controlled on construction sites. The Construction General Permit requires preparation and implementation of a SWPPP, which requires implementation of BMPs to control stormwater run-on and runoff from construction work sites. BMPs may include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures to be identified by a qualified SWPPP developer that would substantially reduce or prevent erosion from occurring during construction.

In addition, the Applicant-proposed erosion and sediment control and pollution prevention measures described in Section 2.5.9.3 would be enforced during construction to reduce substantial erosion and the loss of topsoil. As discussed in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, the Applicant has committed to complying with all applicable laws and standards.

Compliance with applicable federal, state, and local requirements and the applicable Applicant Proposed Measures would ensure the Project's potential impacts associated with soil erosion and loss of topsoil during construction would be less than significant.

**Mitigation:** None required.



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**Criterion c)** Whether the Project would 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.

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As discussed in the context of significance criterion a.iv, the Project would cause no impact related to landslides because the relevant area is relatively flat with no evidence of landslides. Similarly, the Project would not have the potential to result in on- or off-site landslide due to presence on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project. (*No Impact*)

**Impact 3.8-5: The Project would not 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 lateral spreading, subsidence, liquefaction, or collapse. (*Less-than-Significant Impact*)**

Project construction would include ground-disturbing activities that could increase the risk of causing or being subject to damage from unstable geologic units or soils. Movement of unstable units could damage structures and injure site workers. As discussed previously, there would be a less-than-significant impact related to liquefaction, lateral spreading, or other seismic-induced ground failure. The Project site is in an area that has experienced land subsidence in the past, and the San Joaquin Valley has a history of land subsidence due to groundwater pumping. As noted in Section 2.5.5.1, *Water and Wastewater*, water supply for construction and operation may be provided by the on-site water supply well. As discussed above in Impact 3.8-1, the volume of water used is not anticipated to be significant and is not expected to contribute to local subsidence or collapse. Therefore, impacts related to unstable geologic units or soils would be less than significant. Compliance with applicable laws and standards, including the CBC, would ensure that any impact relating to the stability of geologic units or soils related to the Project would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the project would be located on expansive soil, as defined in California Building Code (2019) Section 1803.5.3, creating substantial direct or indirect risks to life or property.

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**Impact 3.8-6: The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property. (*Less-than-Significant Impact*)**

Construction on expansive soils could increase the risk of causing or being subject to damage from expansive soil because the swelling and shrinking of expansive soil could damage structures or injure site workers. However, the Geology and Geohazards Desktop Review (Appendix G1) indicates that the Project site is not mapped within moderately high or high soil expansion potential soils. The NRCS Web Soil Survey data reflect this finding as well; the linear extensibility rating for the soils underlying the Project site is between 2.0 and 3.2 percent, indicating a low to moderate soil expansion potential.

As stated above, CBC would require the preparation of a final, site-specific geotechnical report, which would include further site investigations. If these investigations find (contrary to existing data) that expansive soils are present at the Project site, then the report would include recommendations to ensure that any structural improvements proposed to be constructed on such soils would be avoided, removed, or engineered to be suitable. Adherence to the requirements of the CBC and geotechnical investigation would avoid impacts resulting from potentially expansive soils on the Project site, if any. Therefore, the Project would not create substantial direct or indirect risks to life or property related to expansive soils, and impacts would be less than significant.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater.

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**Impact 3.8-7: The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater. (*Less-than-Significant Impact*)**

During construction and decommissioning, portable restroom facilities would be provided and serviced by licensed providers. For operations, a 2,500-square-foot operation and maintenance building would be constructed on-site and would include a kitchen and restroom. Wastewater from these facilities is expected to be disposed of using a septic tank or a wastewater removal service. Should a septic tank be installed, the capacity of the septic tank would be determined based on site-specific soil conditions, among other factors. The soils at the Project site are well-drained and do not exhibit high swelling potential, which lowers the risk of effluent surfacing (see Appendix G1). Further, the flat topography would not be expected to present challenges to the construction or maintenance of a septic tank and leach field wastewater disposal system. Therefore, the impacts associated with soil capable of supporting septic tanks or alternative wastewater disposal systems would be less than significant.

**Mitigation:** None required.

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**Criterion f)** Whether the Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

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**Impact 3.8-8: The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (*Less-than-Significant Impact*)**

Construction equipment would be used to grade and excavate on-site soils. Such activities could destroy paleontological resources or unique geologic features if they are present.

Geologic mapping indicates that the surficial deposits at the Project site consist of Holocene-age fan-derived alluvial sediments, with older, Pleistocene-age sediments (Tulare Formation) mapped in the vicinity and likely present at an estimated depth of approximately 10 feet bgs. These units are not considered unique geologic features. Generally, surficial Holocene-age sediments have a low potential to contain significant paleontological resources; however, several significant fossils have been discovered within Holocene-age sediments in Fresno County.

Pleistocene-age sediments are considered to have a high potential to contain significant paleontological resources due to their age and the well-documented presence of significant fossil finds in Fresno County and throughout California. The actual depth to Pleistocene-age deposits is unknown, and the potential to encounter significant paleontological resources below 10 feet bgs is undetermined. Therefore, construction of the Project could encounter paleontological resources in Pleistocene-age sediments areas where excavations result in disturbance at depths at or below 10 feet.

The risks of uncovering or destroying paleontological resources vary based on the amount of ground disturbance; for example, ground-disturbing activities that would involve minimal excavation of soil (such as driving a post into the ground) would have a minimal impact on paleontological resources, as there would be little to no material to observe, while excavations involving greater volumes would have a greater potential impact. Project construction would require varying degrees of ground disturbance, including grading and minor cuts to install access roads and construct foundations for the medium voltage stations. Additionally, an operations and maintenance building would be constructed on the Project site. Installation of the transmission line poles would require the deepest excavations and/or other ground disturbance at approximately 15 feet bgs.

To avoid or substantially reduce potential impacts on paleontological resources, if present, during construction, **Mitigation Measure 3.8-1** would require that all earthwork halt in the event of a fossil discovery and that a qualified paleontologist assess the discovery. If the discovery is determined to be significant by the qualified paleontologist, it would be recovered using appropriate recovery techniques, identified, catalogued, and prepared for storage in a recognized paleontological repository. In the event of a discovery, the qualified paleontologist may recommend paleontological resource monitoring on an as-needed basis.

**Mitigation Measure 3.8-1: Paleontological Monitoring.** The qualified paleontologist shall oversee paleontological monitoring of all excavation at depths at or greater than 10 feet in previously undisturbed sediments. Monitoring shall be conducted by a paleontological monitor meeting the standards of the SVP (2010). If a paleontological resource is found, regardless of depth or setting, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and contact the qualified paleontologist. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any significant fossils encountered and recovered shall be catalogued and curated at an accredited institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and

photographs shall also be filed at the repository. The qualified paleontologist shall prepare a report documenting evaluation and/or additional treatment of the resource. The report shall be filed with the County and with the repository.

**Significance after Mitigation:** Less than significant. Implementation of Mitigation Measure 3.8-1 would substantially reduce the potential for a significant impact to paleontological resources by halting work upon discovery and establishing appropriate next steps.

### ***PG&E Infrastructure***

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. As noted previously, the minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation would not require any ground disturbance.

Incremental impacts specific to the PG&E work would be less than significant related to earthquake faults, seismic shaking, seismic-induced ground failures (e.g., liquefaction), and unstable geologic units and soils (e.g., landslides, soil erosion or the loss of topsoil, expansive soils, alternative wastewater disposal). Construction of the transmission line would cause a significant impact on a paleontological resource, if ground disturbance occurs below 10 feet and a significant resource is discovered. However, because PG&E is not an applicant subject to the mitigation measures identified in this Draft EIR, the Applicant would be responsible for compliance with any necessary mitigation. PG&E will comply with the CPUC's General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to paleontological resources would consist of Mitigation Measure 3.8-1.

## **3.8.4 Cumulative Effects Analysis**

As discussed above, the Project would not cause any impact with respect to landslides. Therefore, it could not cause or contribute to any cumulative impact related to landslides. For the remaining geology, soils, or paleontological resources considerations, this section analyzes the potential significance of the cumulative effects of the Project's incremental impact in combination with the incremental impacts of one or more of the cumulative projects identified in Table 3.1-1, *Cumulative Projects List*, discussed in Section 3.1.3.1, *Cumulative Scenario*, and shown in Figure 3.1-1, *Cumulative Projects within 15 Miles of the Project Site*.

For Project impacts to combine with the impacts of other projects, the collective incremental impacts must overlap both geographically and temporally. The geographic area affected by the Project and its potential to contribute to cumulative impacts related to geology, soils, and paleontological resources encompasses and is limited to the Project site and its immediately adjacent area because the Project would not cause or contribute to any potential significant impact

beyond this range. The time frame during which the Project could contribute to cumulative impacts related to geology, soils, and paleontological resources would begin with on-site ground-disturbing construction activities and conclude with the cessation of decommissioning and site restoration-related activities because the Project could not cause or contribute to any cumulative impacts outside this time frame.

**Impact 3.8-9: The Project would not cause or contribute to a significant cumulative effect related to seismicity. (*Less-than-Significant Impact*)**

The Project site would be subject to strong, seismically induced ground shaking. As discussed in Section 3.8.3.3, *Direct and Indirect Effects of the Project*, the Project would be designed and constructed in accordance with the most current building code requirements; accordingly, the potential for the Project to exacerbate seismic hazards would be less than significant. State and local building regulations and standards have been established to address and reduce the potential for projects to cause or exacerbate seismic hazard impacts. All projects occurring near the Project would be required to comply with the same applicable provisions of these laws and regulations. Compliance with these requirements would reduce impacts to a less-than-significant level. The purpose of the CBC and related local ordinances is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Based on compliance with these requirements, the incremental, less-than-significant impacts of the Project combined with impacts of other projects in the area would not combine to cause a significant cumulative impact related to seismic hazards.

**Impact 3.8-10: The Project would not cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil. (*Less-than-Significant Impact*)**

If site drainage is not managed properly, then drainage from the Project site in combination with drainage from other project sites could cause soil erosion or loss of topsoil at a local and regional level. As with the Project, all other projects would be required to comply with existing codes, standards, and permitting requirements (e.g., preparation of a SWPPP under the state Construction General Permit) to prevent significant erosion impacts. Potential significant impacts of the Project related to soil erosion and loss of topsoil would be prevented through implementation of the BMPs identified in the SWPPP. Requirements in the state Construction General Permit are designed to reduce adverse cumulative effects of erosion and sedimentation. Cumulative projects would be required to implement similar stormwater control requirements. Therefore, based on compliance with these requirements, the incremental impacts of the Project combined with impacts of other projects in the relevant geographic area would not cause or contribute to a significant cumulative impact related to erosion and loss of topsoil, and the Project's contribution to any cumulative impact would not be cumulatively considerable.

**Impact 3.8-11: The Project would not cause or contribute to a significant cumulative effect to paleontological resources. (*Less-than-Significant with Mitigation Incorporated*)**

The geographic scope of cumulative impacts on paleontological resources includes the Project site and adjacent areas where deposits with a high potential to contain paleontological resources could be disturbed. If paleontological resources extend across areas of ground disturbance of the

Project and cumulative projects, then a cumulative loss of paleontological resources could result and, if so, would be a significant impact. However, implementation of Mitigation Measure 3.8-1 at the Project level would effectively reduce the Project's incremental contribution to any cumulative impact by limiting the potential loss of such resources, if discovered during Project-related ground disturbance. There is no evidence of an existing adverse cumulative paleontological impact, and the Project's incremental contribution would not cause or contribute to one. Therefore, the Project's contribution to any cumulative effect would not be cumulatively considerable, and this impact would be less than significant.

**Mitigation:** Implement Mitigation Measure 3.8-1.

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## 3.9 Greenhouse Gas Emissions

This section identifies and evaluates issues related to greenhouse gas (GHG) emissions. It includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received scoping comments from the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to air pollutant emissions (Appendix A, *Scoping Report*). SJVAPCD recommended measures to address air quality impacts but not GHG emissions.

The analysis in this section is based in part on the Project-specific air quality and GHG study prepared on the Applicant's behalf (**Appendix D1**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.9.1 Setting

#### 3.9.1.1 Study Area

GHG emissions and climate change are a cumulative global issue. The California Air Resources Board (CARB) and U.S. Environmental Protection Agency (USEPA) regulate GHG emissions within California and the United States, respectively. While CARB has primary regulatory responsibility within California for GHG emissions, local agencies have authority to adopt policies for GHG emissions reductions.

CARB has divided California into regional air basins. The Project site is located in the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of SJVAPCD. Although GHG emissions impacts are global in nature, the study areas for purposes of this analysis of potential GHG emissions-related impacts are the SJVAB and the state.

#### 3.9.1.2 Environmental Setting

##### ***Climate Change***

According to USEPA, the term *climate change* refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (several decades or longer). There is scientific consensus that climate change is occurring, and that human activity contributes in some measure (perhaps substantially) to that change. Gases that trap heat in the atmosphere are referred to as GHGs. Emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to increases in global temperatures.

The potential effects of climate change in California include sea level rise and reductions in snowpack, as well as an increased number of extreme-heat days per year, high-ozone days, large forest fires, and drought years (CARB 2022a). Globally, climate change could affect numerous environmental resources through potential, though uncertain, changes in future air temperatures and precipitation patterns. According to the Intergovernmental Panel on Climate Change (IPCC),

the projected effects of climate change are likely to vary regionally, but are expected to include the following direct effects (IPCC 2021):

- Higher maximum temperatures and more hot days over nearly all land areas.
- Higher minimum temperatures (fewer cold days and frost days over nearly all land areas).
- Reduced diurnal temperature range over most land areas.
- Increase in heat index over most land areas.
- More intense precipitation events.

In addition, many secondary effects are projected to result from climate change, including a global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. The possible outcomes and feedback mechanisms involved are not fully understood, and much research remains to be done; however, over the long term, the potential exists for substantial environmental, social, and economic consequences.

Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature; however, emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change.

### **Greenhouse Gas Emissions**

GHG emissions that result from human activities primarily include carbon dioxide (CO<sub>2</sub>), with much smaller amounts of nitrous oxide; methane, often from unburned natural gas; sulfur hexafluoride from high-voltage power equipment; and hydrofluorocarbons and perfluorocarbons from refrigeration/chiller equipment. These GHGs have different *warming potentials* (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas), and CO<sub>2</sub> is used as the reference gas for climate change. Therefore, GHG emissions are quantified and reported as CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) emissions based on the reference gas. The global warming potential (GWP) is based on the intensity of infrared absorption by each GHG as well as how long emissions remain in the atmosphere. For example, while sulfur hexafluoride represents a small fraction of the total annual GHGs emitted worldwide, this gas has a very high capacity for infrared absorption and remains in the atmosphere for thousands of years, with 23,900 times the GWP of CO<sub>2</sub>. Therefore, an emission of 1 metric ton (MT) of sulfur hexafluoride would be reported as 23,900 MT CO<sub>2</sub>e. The GWPs of methane and nitrous oxide are 25 times and 298 times that of CO<sub>2</sub>, respectively (CARB 2023). The principal GHGs resulting from human activity that enter and accumulate in the atmosphere are described below.

### **Carbon Dioxide**

CO<sub>2</sub> is a naturally occurring gas that enters the atmosphere through both natural and anthropogenic (human) sources. Key anthropogenic sources include the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees, wood products, and other biomass, as well as industrially relevant

chemical reactions such as those associated with manufacturing cement. CO<sub>2</sub> is removed from the atmosphere when it is absorbed by plants as part of the biological carbon cycle.

### **Methane**

Like CO<sub>2</sub>, methane is emitted from both natural and anthropogenic sources. Key anthropogenic sources of methane include gaseous emissions from landfills, releases associated with mining and materials extraction industries (particularly coal mining), and fugitive releases associated with the extraction and transport of natural gas and crude oil. Methane emissions also result from livestock and agricultural practices. Small quantities of methane are released during fossil fuel combustion.

### **Nitrous Oxide**

Nitrous oxide is also emitted from both natural and anthropogenic sources. Important anthropogenic sources include industrial activities, agricultural activities (primarily the application of nitrogen fertilizer), the use of explosives, combustion of fossil fuels, and decay of solid waste.

### **Fluorinated Gases**

Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic gases emitted from a variety of industrial processes, and they contribute substantially more to the greenhouse effect on a pound-for-pound basis than the GHGs described previously. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in small quantities, but because of their potency, they are sometimes referred to as *high-GWP gases*. Fluorinated gases in the form of sulfur hexafluoride are used in electrical equipment such as switchgear and circuit breakers that would be associated with the Project.

### **Greenhouse Gas Sources**

Anthropogenic GHG emissions in the United States are derived mostly from the combustion of fossil fuels for transportation and power production. Energy-related CO<sub>2</sub> emissions resulting from fossil fuel exploration and use account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO<sub>2</sub> emissions from burning fossil fuels. More than half of the energy-related emissions come from large stationary sources, such as power plants; approximately one-third derive from transportation sources; and a majority of the remaining sources are industrial processes, agriculture, commercial, and residential (USEPA 2023a).

In 2020, California produced approximately 369 million MT CO<sub>2</sub>e, with the combustion of fossil fuels in the transportation sector being the single largest source of GHG emissions, accounting for 37 percent of total GHG emissions in the state. This represents a decrease of 35 million MT CO<sub>2</sub>e from 2019, likely associated with the COVID-19 pandemic-related economic shutdowns that year. This sector was followed by the industrial sector (20 percent), the electric power sector (including both in-state and out-of-state sources) (16 percent), the agriculture and forestry sector (9 percent), and the commercial and residential sector (11 percent). High-GWP emissions from refrigerants and other sources made up 5 percent of the emissions while the waste sector resulted in 2 percent of the emissions (CARB 2022b).

### 3.9.1.3 Regulatory Setting

#### ***Federal***

##### **Clean Air Act**

On April 2, 2007, in *Massachusetts v. USEPA* (549 US 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. On April 17, 2009, the USEPA Administrator signed proposed *endangerment* and *cause or contribute* findings for GHGs under Section 202(a) of the Clean Air Act. USEPA found that six GHGs, taken in combination, endanger both the public health and the public welfare of current and future generations. Pursuant to Code of Federal Regulations (CFR) Title 40, Part 52, *Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, USEPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements apply to facilities whose stationary-source CO<sub>2</sub>e emissions exceed 100,000 tons per year (USEPA 2022). The Project would not trigger PSD or Title V permitting under this regulation because it would generate less than 100,000 tons of CO<sub>2</sub>e emissions per year.

##### **40 CFR Part 98, Use of Electric Transmission and Distribution Equipment**

Pursuant to federal regulations (40 CFR Part 98, Subpart DD), operators of certain electrical facilities, such as sulfur hexafluoride-containing circuit breakers, are required to report sulfur hexafluoride emissions to USEPA (USEPA 2023b). Sulfur hexafluoride-containing circuit breakers associated with the Project would be subject to reporting under this regulation.

#### ***State***

A variety of statewide rules and regulations mandate quantifying GHG emissions and, if the emissions exceed established thresholds, reducing such emissions. CEQA requires lead agencies to evaluate project-related GHG emissions and the potential for projects to contribute to climate change and to provide appropriate mitigation in cases where the lead agency determines that a project would result in a significant addition of GHGs to the atmosphere.

##### **Executive Order S-3-05**

In June 2006, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established the following statewide emission-reduction targets through the year 2050:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

This executive order does not contain any requirements that directly pertain to the Project; however, future actions taken by the State of California to implement these goals may affect the Project, depending on the specific implementation measures developed.

## **Assembly Bill 32 and Global Warming Solutions Act**

In 2006, the California Legislature enacted Assembly Bill (AB) 32 (Health and Safety Code Division 25.5, Section 38500 et seq.), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). AB 32 anticipated that the GHG reduction goals would be met, in part, through local government actions. CARB identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide). CARB noted that successful implementation of the plan relies on local governments' land use planning and urban growth decisions: Local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The initial AB 32 emissions reduction limit was achieved in 2017, 3 years before the 2020 goal.

## **Senate Bill 375**

In addition to policy directly guided by AB 32, the California Legislature in 2008 enacted SB 375, which provided for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires that regional transportation plans (RTPs) developed by the state's 18 metropolitan planning organizations incorporate sustainable communities strategies that achieve GHG emission reduction targets set by CARB and coordinate regional housing and transportation. The Fresno Council of Governments (Fresno COG) is the federally recognized metropolitan planning organization for Fresno County.

The Fresno COG is the regional planning agency for Fresno County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. The Fresno COG has prepared the *2022 Regional Transportation Plan and Sustainable Communities Strategy* (2022 RTP/SCS) for the region (Fresno COG 2022). In 2010, as part of its mandate under SB 375, CARB set specific GHG emission reduction targets for cars and light trucks for each of the state's 18 metropolitan planning organizations from a 2005 base year. The GHG targets set for the Fresno region in 2010 called for a 5 percent per capita reduction by 2020 and a 10 percent per capita reduction by 2035. SB 375 required that the Fresno COG demonstrate in its sustainable communities strategy that GHG emission reduction targets will be met for 2020 and 2035. Project consistency with the 2022 RTP/SCS would therefore support AB 32 and SB 32 GHG reduction goals.

## **Senate Bill 32 and Assembly Bill 197**

Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amended Health and Safety Code Division 25.5 and codified the 2030 target in EO B-30-15 (40 percent below 1990 levels by 2030), while AB 197 included provisions to ensure that the benefits of state climate policies include disadvantaged communities. The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by EO B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below

1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately affected by the deleterious effects of climate change on public health. .

### **Climate Change Scoping Plan**

Pursuant to AB 32, CARB adopted the *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011) outlining measures to meet the 2020 GHG reduction goals (CARB 2008). To meet these goals, California had to reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from 2008 levels. The Scoping Plan relied on the requirements of SB 375 (discussed above) to implement the carbon emission reductions anticipated from land use decisions.

AB 32 requires that the Scoping Plan be updated at least every 5 years. The *First Update to the Climate Change Scoping Plan* describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the State of California as it establishes a framework for achieving air quality and climate goals beyond the year 2020. On December 14, 2017, CARB approved the final version of California's *2017 Climate Change Scoping Plan*, which outlines the proposed framework of action for achieving the 2030 GHG target of a 40 percent reduction in GHG emissions relative to 1990 levels (CARB 2017). The 2017 Scoping Plan identifies key sectors of the implementation strategy, which includes improvements in the low-carbon-energy industry, transportation sustainability, natural and working lands, waste management, and water. CARB determined that the statewide 2030 emissions limit target is 260 million MT CO<sub>2</sub>e, and that further commitments will need to be made to achieve an additional reduction of 50 million MT CO<sub>2</sub>e beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal represented by SB 32 and ensure achievement of the 2050 limit set forth by EO B-30-15.

The 2022 Climate Change Scoping Plan, adopted on December 15, 2022, assesses progress toward achieving the SB 32 2030 target and lays out the path to achieve carbon neutrality by 2050 (CARB 2022a). The actions and outcomes in the plan are intended to achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. There are several goals related to transitioning existing energy production and transmission infrastructure to support the generation of clean energy, such as expanding energy storage. A construction-equipment-sector action for the Scoping Plan Scenario commits 25 percent of energy demand to be electrified by 2030 and 75 percent electrified by 2045.

### **Executive Order B-30-15**

In 2015, Governor Edmund G. Brown Jr. issued Executive Order (EO) B-30-15, establishing a GHG reduction target of 40 percent below 1990 levels by 2030. This goal was set to make it possible to reach the ultimate goal of AB 32 to reduce GHG emissions by 80 percent under 1990

levels by 2050. Specifically, the order directed CARB to update the *Climate Change Scoping Plan* (Scoping Plan) (discussed below) to express this 2030 target in metric tons. As discussed below, on September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which codified the 2030 reduction target called for in EO B-30-15. CARB's Scoping Plans address the 2030 target.

### **Executive Order B-55-18**

On September 10, 2018, Governor Brown issued EO B-55-18, committing California to total, economy-wide carbon neutrality by 2045. EO B-55-18 directs CARB to work with relevant state agencies to develop a framework to implement an accounting to track progress toward this goal. AB 1395 would codify this carbon neutral target.

### **California Renewable Energy Programs**

In 2002, California initially established its Renewables Portfolio Standard (RPS), with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. State energy agencies recommended accelerating that goal, and California EO S-14-08 (November 2008) required California utilities to reach the 33 percent renewable electricity goal by 2020, consistent with the AB 32 Scoping Plan. In April 2011, SB 2 of the First Extraordinary Session (SB X1-2) was signed into law. SB X1-2 expressly applied the new 33 percent RPS by December 31, 2020, to all retail sellers of electricity and established renewable energy standards for interim years before 2020. In 2018, SB 100, the California Clean Energy Act of 2017, was signed into law. This bill established a target to supply the state with 100 percent renewable and zero-carbon energy resources by 2045.

### **Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear**

The purpose of this regulation (California Code of Regulations [Cal. Code Regs.] Title 17, Section 95350 et seq.) is to achieve GHG emission reductions by reducing sulfur hexafluoride emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions of 1.0 percent of the total sulfur hexafluoride capacity of all of the owner's active gas-insulated switchgear equipment. As defined by the regulation, the annual emissions rate equals the gas-insulated switchgear owner's total annual sulfur hexafluoride emissions from all active gas-insulated switchgear equipment divided by the average annual sulfur hexafluoride nameplate capacity of all active gas-insulated switchgear equipment. Owners must regularly conduct an inventory of gas-insulated switchgear equipment, measure quantities of sulfur hexafluoride, and maintain records of these for at least 3 years. Additionally, by June 1 of each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year (CARB 2011).

### **Local**

#### **San Joaquin Valley Air Pollution Control District**

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental

documents. The Project site is located within the jurisdiction of SJVAPCD. As a response to this CEQA requirement, the SJVAPCD's Governing Board adopted the *Climate Change Action Plan* (CCAP) in August 2008. The CCAP directed the SJVAPCD Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change.

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD 2009a, 2009b). The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess the significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA.

The use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emissions reduction measure. Projects implementing BPS would have a less than cumulatively considerable impact. However, SJVAPCD's adopted BPS are specifically directed at reducing GHG emissions from stationary sources that require a permit from SJVAPCD, or from improved energy efficiency and reduced vehicle miles traveled associated with operations of development projects. The Project would not include a stationary source of exhaust emissions and is not a typical development project that would consume a large amount of energy or result in a large increase in vehicle miles traveled; therefore, the adopted BPS would not be applicable to the Project. For CEQA reviews of projects not implementing BPS, SJVAPCD recommends quantifying project-specific GHG emissions and demonstrating that such emissions would be reduced or mitigated by at least 29 percent, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002–2004 baseline period. Projects that would reduce GHG emissions by at least 29 percent compared to BAU are considered consistent with the AB 32 emissions reduction goal for 2020.

However, since the 2009 publication of SVJAPCD's GHG guidance, the California Supreme Court has considered the CEQA issue of determining the significance of GHG emissions, in its decision in *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204 (referred to as the *Newhall* decision in recognition of the real party in interest). In the *Newhall* decision, the court questioned a common CEQA approach to GHG analyses for development projects that compared project emissions to the reductions from BAU that would be needed statewide to reduce emissions to 1990 levels by 2020, as required by AB 32. The court upheld the BAU method as valid in theory but concluded that the method was applied improperly in the case of the *Newhall* project: The project's target was incorrectly deemed consistent with the statewide emission target of 29 percent below BAU for the year 2020. In other words, the court said that the percent-below-BAU target developed by the AB 32 Scoping Plan is intended as a measure of the GHG reduction effort required by the state, and it cannot necessarily be applied to the impacts of a specific project in a specific location. In addition, this quantitative approach is no longer valid because it is based on a reduction target year that has already passed and ignores



additional reduction targets for year 2030 implemented by the Climate Change Scoping Plan Update and SB 32, as described above.

### **Fresno Council of Governments**

As noted above, the Fresno COG is the regional planning agency for Fresno County and serves as a forum for regional issues related to transportation, the economy, community development, and the environment. The Fresno COG's 2022 RTP/SCS (Fresno COG 2022) addresses GHG emissions reductions and other air pollutant emissions related to transportation, with the goal of preparing for future growth in a sustainable manner through the year 2046. Policies in the 2022 RTP/SCS are implemented to protect the region's air quality, and they build on the short-range program's successes; on both federal and California policies and mandates related to air quality and GHG emissions; and on available funding. Long-term strategies are those that are often aimed at changing attitudes and behavior toward new and alternate transportation systems and fuels, alternative means of commuting to work, and land-use changes over time.

### **Fresno County 2000 General Plan**

The Fresno County General Plan does not contain any goals or policies applicable to GHG emissions and climate change. The General Plan includes energy efficiency goals and policies applicable to new and existing housing. These would not apply to the Project.

## **3.9.2 Significance Criteria**

The Project would result in significant impacts associated with GHG emissions if it would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

## **3.9.3 Direct and Indirect Effects**

### **3.9.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Although none of the actions specifically target potential GHG emissions-related impacts, one or more among them could result in a benefit to the reduction of GHG emissions.

### 3.9.3.2 Methodology

Neither CEQA Guidelines Section 15064.4 nor any other law<sup>1</sup> requires or endorses a specific analytical methodology or quantitative criterion for determining the significance of GHG emissions-related impacts. Rather, lead agencies are to make a “good faith effort” to “describe, calculate or estimate” GHG emissions and to consider the extent to which the project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; or comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.” A project may be found to have a less-than-significant 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. 15064[h][3]).

SJVAPCD has adopted its *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA*. A GHG emissions analysis is required to be included in CEQA documents for all non-exempt projects. The SJVAPCD guidance does not limit a lead agency’s authority in establishing its own process and guidance for determining the significance of project-related impacts on the global climate (SJVAPCD 2009a). SJVAPCD’s adopted BPS are specifically directed at reducing GHG emissions from stationary sources or from improved energy efficiency and reduced vehicle miles traveled, and adopted quantitative thresholds do not apply to this Project. Therefore, this analysis evaluates the Project’s GHG emissions relative to Project compliance with applicable plans, policies, regulations, and requirements adopted for the reduction or mitigation of GHG emissions to determine whether the Project’s GHG emissions would result in a significant impact.

Because construction and decommissioning activities for both energy storage options would occur over a relatively short-term period, they would contribute a relatively small portion of the Project’s overall lifetime GHG emissions. It is common practice to amortize construction-related GHG emissions over a project’s lifetime to include these emissions as part of the project’s annualized total emissions; thus, any GHG reduction measures would address construction GHG emissions as part of the operational GHG reduction strategies. As stated in Chapter 2, *Project Description*, the requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. For the purposes of this analysis, the construction and decommissioning GHG emissions have been annualized over a 30-year period and considered along with the annual operational emissions.

For this Project, the major source of GHG emissions during construction would be the combustion of fuel in construction equipment, in vehicles used to haul materials, and in vehicles used by workers commuting to and from the Project site. Operational GHG emissions would result from employee vehicle trips made to and from the site and could result from leaks, if any,

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<sup>1</sup> See *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204, which identifies three “potential options” for lead agencies evaluating the cumulative significance of a proposed land use development’s GHG emissions and explicitly states that none of the three options came with a “guarantee” that it would be sufficient if later challenged.

of sulfur hexafluoride from circuit breakers. GHG emissions from construction were estimated using the California Emissions Estimator Model (CalEEMod) (v. 2022.1.0).

Project emissions of CO<sub>2</sub>, methane, and nitrous oxide were multiplied by their respective GWPs of 1, 25, and 298, respectively, and summed to estimate CO<sub>2</sub>e emissions. (See Section 3.4, *Air Quality*, for a more detailed discussion of exhaust emission assumptions.) Additionally, Project GHG emissions could include fugitive emissions of sulfur hexafluoride from high-voltage circuit breakers at the on-site substation. The GWP of sulfur hexafluoride is equivalent to 22,800 times that of CO<sub>2</sub>. CO<sub>2</sub>e emissions resulting from sulfur hexafluoride gas leakage at the Project site were estimated for the circuit breakers, assuming a maximum leak rate of 1.0 percent per year. Sulfur hexafluoride emissions were calculated to be approximately 888 MT CO<sub>2</sub>e per year (Appendix D1).

The potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG was assessed by examining any potential conflicts of the Project with the GHG reduction measures related to implementation of AB 32 and SB 32 goals, with CARB's Climate Change Scoping Plans, and with SB 375. Under SJVAPCD's CEQA guidance for analysis of GHG emissions, a project would not have a significant GHG impact if it is consistent with an applicable qualified plan to reduce GHG emissions (SJVAPCD 2009a).

### 3.9.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

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**Impact 3.9-1: The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment. (*Less-than-Significant Impact*)**

#### Construction and Decommissioning

The Project's construction activities would involve the use of off-road construction equipment, vendor trucks, and worker vehicles, all of which would emit GHGs. Project construction was analyzed for both battery scenarios and modeled to last over a period of 6 years ending in 2031. Decommissioning activities are anticipated to require types and levels of equipment similar to those used during construction. Emissions associated with decommissioning were modeled over 2 years. **Table 3.9-1** and **Table 3.9-2** present construction and decommissioning emissions for both scenarios from on-site and off-site emission sources. Additional details on calculations and CalEEMod output files can be found in the Air Quality and Greenhouse Gas Study included as Appendix D1.

**TABLE 3.9-1  
 CONSTRUCTION GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY OPTION**

| Construction Phase                            | CO <sub>2</sub> e (metric tons/year) |
|---|--------------------------------------|
| <b>Construction</b>                           |                                      |
| Phase 1                                       | 2,109                                |
| Phase 2                                       | 2,282                                |
| Phase 3                                       | 3,988                                |
| Phase 4                                       | 3,912                                |
| Total   | 12,290                               |
| Total Project Annual, amortized over 30 years | 410                                  |
| <b>Decommissioning</b>                        |                                      |
| Total   | 8,919                                |
| Total Project Annual, amortized over 30 years | 297                                  |

NOTE: CO<sub>2</sub>e = carbon dioxide equivalent

SOURCE: Table 9 of Appendix D1

**TABLE 3.9-2  
 CONSTRUCTION GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY WITH IRON FLOW OPTION**

| Construction Year                             | CO <sub>2</sub> e (metric tons/year) |
|---|--------------------------------------|
| <b>Construction</b>                           |                                      |
| Phase 1                                       | 3,680                                |
| Phase 2                                       | 2,518                                |
| Phase 3                                       | 4,729                                |
| Total   | 10,928                               |
| Total Project Annual, amortized over 30 years | 364                                  |
| <b>Decommissioning</b>                        |                                      |
| Total   | 8,919                                |
| Total Project Annual, amortized over 30 years | 297                                  |

SOURCE: Table 9 of Appendix D1

As shown in Table 3.9-1, construction activities under the Lithium Ion Battery option would generate a total of 12,290 MT CO<sub>2</sub>e. Table 3.9-2 shows that the total construction emissions generated under the Lithium Ion Battery with Iron Flow option would be 10,928 MT CO<sub>2</sub>e. When amortized over a 30-year period, annual construction emissions would be 410 MT CO<sub>2</sub>e per year for the Lithium Ion Battery option and 364 MT CO<sub>2</sub>e per year for the Lithium Ion Battery with Iron Flow option. Decommissioning emissions for both options would total 8,919 MT CO<sub>2</sub>e; when averaged over 30 years, annual decommissioning emissions would be 297 MT CO<sub>2</sub>e per year.

### Operation and Maintenance

Emissions during Project operation would result from vehicle visits to the Project sites for periodic operation and maintenance activities. CalEEMod was used to estimate annual operational emissions for both the Lithium Ion Battery option and the Lithium Ion Battery with Iron Flow option, which for Phase 1 would first occur in 2025 and 2026, respectively. Additionally, the Project would include installation and operation of 17 500-kilovolt (kV) gas-insulated circuit breakers, which would contain sulfur hexafluoride. CARB’s regulations dictate that the maximum allowable sulfur hexafluoride leak rate for 2020 and beyond is 1 percent. Therefore, Project operations for both options are assumed to achieve the currently required maximum leak rate of 1 percent. This is considered conservative because the Project’s actual sulfur hexafluoride leak rates may be less than the maximum allowed 1 percent. The Project is estimated to result in annual sulfur hexafluoride emissions of approximately 888 MT CO<sub>2</sub>e (Appendix D1). **Table 3.9-3** and **Table 3.9-4** present the Project’s operation and maintenance GHG emissions under both battery options.

**TABLE 3.9-3  
OPERATIONAL GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY OPTION**

| Operational Source                         | CO <sub>2</sub> e (metric tons/year) |
|--|--------------------------------------|
| Area                                       | 0                                    |
| Energy                                     | 6                                    |
| Mobile                                     | 2                                    |
| Waste                                      | 0                                    |
| Water                                      | <1                                   |
| Sulfur Hexafluoride Circuit Breaker Leaks  | 888                                  |
| Refrigerant                                | <1                                   |
| <b>Total Project Operational Emissions</b> | <b>896</b>                           |
| Amortized Construction Emissions           | 410                                  |
| Amortized Decommissioning Emissions        | 297                                  |
| <b>Total Project Emissions</b>             | <b>1,603</b>                         |

NOTE: CO<sub>2</sub>e = carbon dioxide equivalent

SOURCE: Table 10 of Appendix D1

**TABLE 3.9-4  
 OPERATIONAL GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY OPTION**

| Operational Source                   | CO <sub>2</sub> e (metric tons/year) |
|--------------------------------------|--------------------------------------|
| Area                                 | 0                                    |
| Energy                               | 6                                    |
| Mobile                               | 2                                    |
| Waste                                | 0                                    |
| Water                                | <1                                   |
| Sulfur Hexafluoride Insulation Leaks | 888                                  |
| Refrigerant                          | <1                                   |
| Total Project Operational Emissions  | 896                                  |
| Amortized Construction Emissions     | 364                                  |
| Amortized Decommissioning Emissions  | 297                                  |
| Total Project Emissions              | 1,558                                |

NOTE: CO<sub>2</sub>e = carbon dioxide equivalent

SOURCES: Table 10 of Appendix D1

Most operational emissions from the Project would be derived from potential circuit breaker leaks of sulfur hexafluoride. As discussed above, the GWP of sulfur hexafluoride is much higher than that of other principal GHGs and thus poses a greater concern. However, sulfur hexafluoride emissions for this Project were estimated conservatively, as the actual sulfur hexafluoride content used in the circuit breakers could be substantially less.

The increase in renewable energy supplying electricity to California’s power grid has resulted in an increased need for expanded energy storage systems to ensure that the supply in the grid matches the demand at all times, including at night when solar power cannot be generated. The Project would provide the capacity to store up to 3 gigawatts of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed. This would have a beneficial effect on peak and base periods of demand for electricity and would support the grid’s overall reliability and resiliency. By supporting the storage of and deployment of excess renewable energy, the Project would offset the future GHG emissions from electricity produced by nonrenewable sources. Thus, this would also offset the annual GHG emissions anticipated from the Project, and the Project would generate GHG emissions that would have an overall less-than-significant impact on the environment.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

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**Impact 3.9-2: The Project could conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. (*Less than Significant*)**

Under SJVAPCD’s CEQA guidance for GHGs, a project would not have a significant GHG impact if it is consistent with an applicable plan to reduce GHG emissions. A CEQA-compliant analysis was completed for the GHG reduction plan. As discussed in the context of Impact 3.9-1, excess renewable energy stored by the Project would replace existing fossil fuel-generated energy, and would help the state achieve the renewable energy targets established under the Scoping Plan and SB 100 by supporting the dispatch of renewable energy to achieve the RPS of 60 percent by the end of 2030 and 100 percent by 2045. The Project would address the critical need for the rapid expansion and deployment of clean energy storage resources as described in the Scoping Plan to reduce GHG emissions. Although the Project would generate short-term GHG emissions from construction and decommissioning, as well as from long-term operation and maintenance, it would result in a net reduction in GHG emissions from the dispatch of excess renewable energy that would potentially replace energy generated by fossil fuels. In addition, the Project would support the decarbonization of the electric grid and improve accessibility to renewable energy by allowing energy to be used more efficiently. The Project would assist in the attainment of the state’s goals, and therefore would comply with the goals and objectives of the Scoping Plan.

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E’s construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to generation of GHG emissions that may have a significant impact and to a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

**Mitigation:** None required.

### 3.9.4 Cumulative Effects Analysis

GHG emissions are inherently a cumulative concern that is understood for CEQA purposes to be significant and adverse. Accordingly, the significance of GHG emissions in this analysis is

determined based on whether such emissions would have a cumulatively considerable impact on global climate change. Although the geographic scope of cumulative impacts related to GHG emissions is global, this analysis focuses on the Project's direct and/or indirect generation or offset of GHG emissions on the region and the state. The California Air Pollution Control Officers Association considers GHG impacts to be exclusively cumulative impacts, in that no single project could, by itself, result in a substantial change in climate (CAPCOA 2008). Therefore, the evaluation of cumulative GHG impacts presented above evaluated whether the Project would make a considerable contribution to cumulative climate change effects. The Project would be expected to result in a net reduction in GHG emissions over the duration of the use permit period and would not conflict with the state's GHG reduction goals. Therefore, the Project-specific incremental impact on GHG emissions would not be cumulatively considerable and the cumulative impact would be less than significant.

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## 3.10 Hazards and Hazardous Materials

This section identifies and evaluates issues related to hazards and hazardous materials. This section describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to hazards and hazardous materials (**Appendix A**, *Scoping Report*). Issues and impact analysis concerning air quality and air toxics are presented in Section 3.4, *Air Quality*. Issues and impact analysis concerning noise are presented in Section 3.14, *Noise and Vibration*. Issues and impacts concerning wildfires are addressed in Section 3.20, *Wildfires*.

The analysis in this section is based in part on a site-specific Phase I environmental site assessment (Phase I assessment) prepared on the Applicant's behalf (**Appendix H**, *Hazards and Hazardous Materials*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.10.1 Environmental Setting

#### 3.10.1.1 Study Area

The study area for hazards and hazardous materials impacts encompasses and is limited to the Project site and its immediately adjacent area, with two exceptions discussed below. This is because impacts related to hazardous materials are generally site specific and depend on the nature and extent of a hazardous materials release. For example, hazardous materials incidents tend to be limited to a smaller and more localized area surrounding the immediate spill location and extent of the release, and they are typically limited to the site and possibly the immediately adjacent properties. The study area for proximity to schools and airports extends to 0.25 mile and 2 miles, respectively, beyond the borders of the Project site. These distances are specified in the CEQA Guidelines Appendix G significance criteria. The distance for proximity to schools reflects that children are sensitive receptors. The distance for airports has been selected to allow analysis for constructed structures that might interfere with navigable airspace.

Although it is not contiguous with a large majority of the Project on West Jayne Avenue, the PG&E Midway Substation property in Buttonwillow is included in the study area for hazards and hazardous materials because the proposed activities of minor modifications (replacement and upgrades) to equipment within the existing facility could include the transportation, storage, use, and disposal of hazardous materials.

#### 3.10.1.2 Environmental Setting

Materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable); corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). The term *hazardous material* is defined in

California Health and Safety Code Section 25501(p) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum products to the environment, thus resulting in soil and groundwater contamination. Federal and state laws require that soils with concentrations of contaminants such as lead, gasoline, or industrial solvents exceeding certain acceptable levels be handled and disposed as hazardous waste during excavation, transportation, and disposal. California Code of Regulations Title 22, Sections 66261.20 through 66261.24 (22 Cal. Code Regs. Sections 66261.20–66261.24) contains technical descriptions of characteristics that would cause soil to be classified as a hazardous waste.

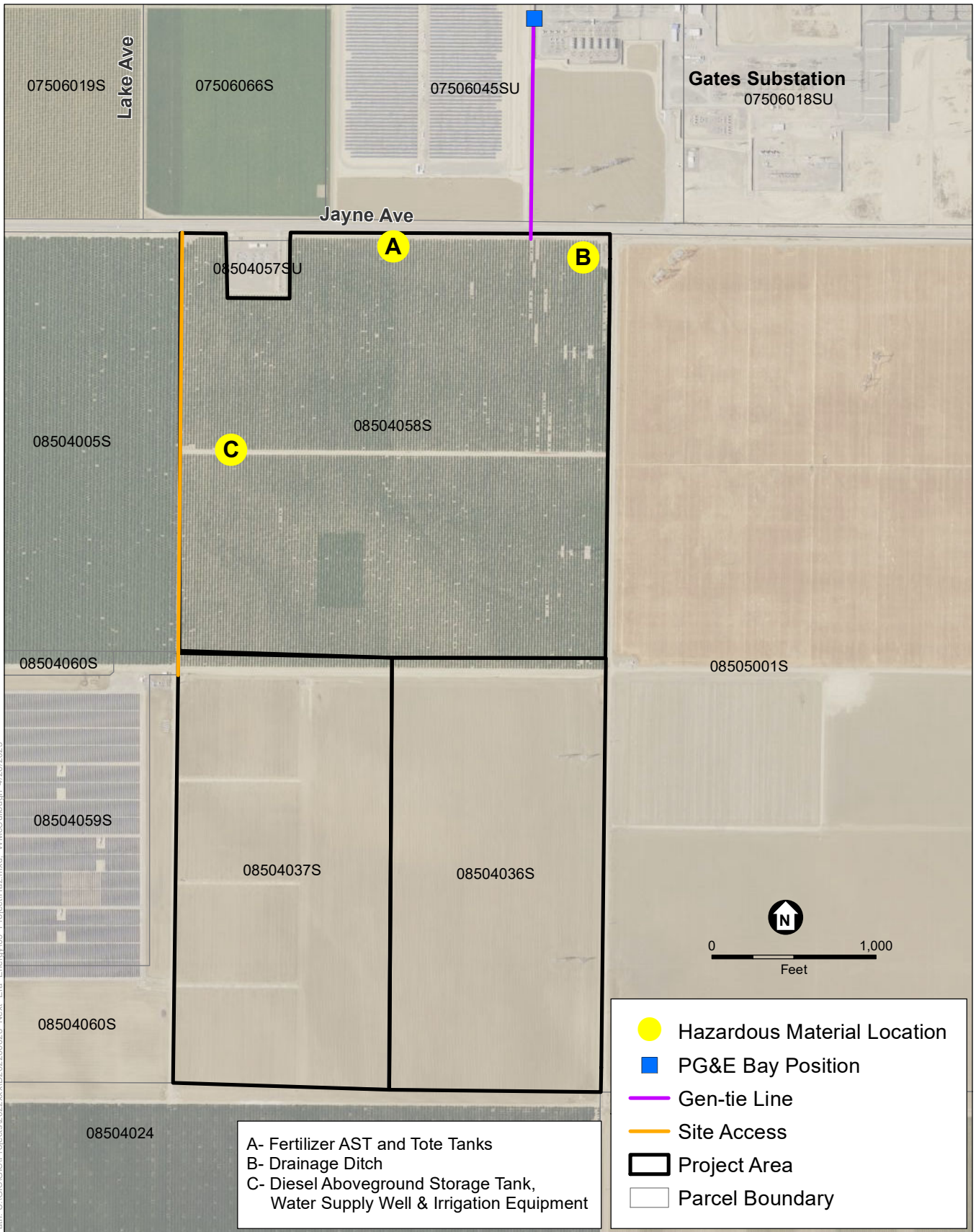
Federal and state laws also require that hazardous materials be specially managed. California regulations are compliant with federal regulations and in most cases are more stringent. Regulations also govern the management of potentially hazardous building materials, such as asbestos-containing materials, lead-based paint, and polychlorinated biphenyls (PCBs) during demolition activities that could potentially disturb existing building materials.

### ***Hazardous Materials Database Search***

A Phase I assessment was prepared for the Project, in conformance with American Society for Testing and Materials (ASTM) E1527-13 and E1527-21 (Appendix H). The objective of the Phase I assessment is to determine the presence or absence of recognized environmental conditions (RECs), controlled RECs, and historical RECs, as defined in ASTM E1527-13 and E1527-21. The findings and opinions provided in the Phase I assessment are based on findings derived from site reconnaissance, review of an environmental database report, review of specified regulatory records and historical sources, and comments made by interviewees knowledgeable about site land uses.

The Phase I assessment included a thorough review of environmental databases maintained by federal, state, and local agencies, to identify sites with releases of hazardous materials or just documented uses of hazardous materials. The findings of the assessment determined that there are no identified RECs in connection with the Project site. According to the Phase I assessment, there is no evidence that hazardous materials or petroleum products exist at the Project site at levels that would require mitigation. The Phase I assessment identified three notable findings in connection with the Project site, listed below and shown on **Figure 3.10-1**:

- An on-site natural gas pipeline and on-site petroleum and natural gas easements traverse the northern and southeastern Project site parcels (see Figure 3.10-1). The Project design has accounted for the location of the natural gas pipeline and easement.
- Contaminated soil from a diesel aboveground storage tank (AST) associated with a water supply well, indicating a minor release, was observed on the western portion of the northernmost Project site parcel (see Location C on Figure 3.10-1). As discussed in Section 2.5.5.1, *Water and Wastewater*, in Chapter 2, *Project Description*, the water supply well may be used for water supply or may be capped and left in place.



Key Energy Storage Project

**Figure 3.10-1**  
 Hazardous Materials

- One former abandoned groundwater well is reportedly on the site. However, a groundwater well whether present or not would not constitute a hazardous materials condition and is not discussed further.

The Phase I assessment identified three de minimis conditions<sup>1</sup> for the Project site, as listed below:

- The subject property and adjacent properties appear to have been used for agricultural purposes since at least 1955. Agriculture is typically associated with the use of pesticides, herbicides, and arsenic, which may result in residual levels of those compounds being present in soil and/or groundwater. The Phase I assessment did not identify information regarding the specific historical use of such chemicals on the subject property. If such chemicals were used and applied to land consistent with their intended use, this application would not be considered a release. Note that the subject property would be redeveloped as a solar facility with limited grading and no soil will be transported offsite; no residential use is proposed. As such, the use of the subject property for agricultural purposes is considered a de minimis condition.
- The Phase I assessment noted that a natural gas pipeline and crude oil pipeline are located on nearby properties. However, no releases have been reported, and based on the planned use of the subject property as a solar array with no planned habitable structures, the nearby pipelines are considered a de minimis condition.
- Two tote tanks were observed along the northern portion of the subject property during the Phase I assessment (see Figure 3.10-1). Staining was observed in the vicinity of the tote tanks. However, because it appears that the tote tanks are associated with SoilBasics, a plant food/fertilizer, minor releases to the soil are not expected to impact the subject property and are considered a de minimis condition.

Based on the reviewed database maps and detailed listings, two facilities/properties were determined to be of potential environmental concern to the Project site. Each is discussed below. In accordance with ASTM E1527-13 and E1527-21, contamination pathways in soil, groundwater, and soil vapor were considered in the analysis of off-site properties of potential environmental concern.

- **Century Link–Huron/PG&E West Gates Solar Station/Level 3 Communications, LLC.** 18364 West Jayne Avenue, adjacent property northeast of the Project site. This site has been identified by the Certified Unified Program Agency (CUPA) of Fresno County, the HazMat Compliance Program, as a Small Hazardous Materials Handler, with violations noted in the California Environmental Reporting System Hazardous Waste Sites. The violations were noted and the site was returned to compliance (Appendix H).
- **PG&E Gates Substation:** 18336 West Jayne Avenue, adjacent property northeast of the Project site. This site was identified in 2003, 2006, and 2007 as having a historic 3,000-gallon AST associated with it. The site is also listed for a petroleum tank that was delisted in 2019 (Appendix H).

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<sup>1</sup> A *de minimis* condition defined pursuant to ASTM E1527-21 is “a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a de minimis condition is not a recognized environmental condition nor a controlled recognized environmental condition.

An independent review of the California Department of Toxic Substances Control (DTSC) EnviroStor (DTSC 2022) and State Water Resources Control Board GeoTracker (State Water Board 2022) hazardous materials databases confirms the findings of the database search included in the Phase I assessment: There are no active or closed hazardous materials sites within the Project site boundary. The Century Link–Huron/PG&E West Gates Solar Station/Level 3 Communications, LLC, and PG&E Gates Substation site, listed above, are not considered RECs and are not known to have adversely affected the Project site (Appendix H). In addition, the GeoTracker and Envirostor website were checked for listings at the Midway substation; no hazardous materials sites were listed (SWRCB/DTSC 2023).

### ***Schools and Day Care Centers***

There are no schools within 0.25 mile of the Project site. The nearest schools are Huron Migrant Head Start and Huron Middle School. Each is approximately 4 miles northeast of the Project site. There are no schools near the Midway Substation. The nearest school is the Buttonwillow Union School, located about 1 mile west of the substation.

### ***Airports***

There are no airports within 2 miles of the Project site. The nearest airports are the New Coalinga Municipal Airport (approximately 8 miles west of the Project site) and the Harris Ranch Airport (approximately 9 miles northwest of the Project site). According to the Fresno County Airport Land Use Compatibility Plan, the Project site is not within any safety zone or noise contours associated with the New Coalinga Municipal or Harris Ranch airports (Fresno County ALUC 2018). There are no airports within 2 miles of the Midway Substation. The nearest airport is the Elk Hills-Buttonwillow Airport, located approximately 3.75 south of the substation.

### ***Emergency Response***

In Fresno County, the Fresno County Multi-Jurisdictional Hazard Mitigation Plan (Fresno County 2018) and Master Emergency Services Plan (Fresno County 2017) are the guiding documents for emergency procedures.

## **3.10.1.3 Regulatory Setting**

### ***Federal***

#### **Hazardous Materials Management**

The primary federal agencies with responsibility for hazardous materials management are the U.S. Environmental Protection Agency (USEPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and U.S. Department of Transportation. State and local agencies often have either parallel or more stringent regulations than federal agencies with respect to hazardous materials. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

### **Resource Conservation and Recovery Act**

Under the federal Resource Conservation and Recovery Act of 1976 (RCRA), individual states may implement their own hazardous waste programs in lieu of the RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by USEPA. USEPA approved California's RCRA program, referred to as the Hazardous Waste Control Law, in 1992.

### **Toxic Substances Control Act**

The Toxic Substances Control Act of 1976 was enacted by Congress to give USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. USEPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

### **Hazardous Materials Transportation**

The U.S. Department of Transportation regulates the transportation of hazardous materials on all interstate roads. The state agencies primarily responsible for enforcing federal and state regulations and responding to transportation emergencies in California are the California Highway Patrol (CHP) and California Department of Transportation (Caltrans). Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.

### **Occupational Safety**

OSHA is the agency responsible for ensuring worker safety in the handling and use of chemicals in the workplace. Federal regulations pertaining to worker safety are contained in Code of Federal Regulations (CFR) Title 29, as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards related to hazardous materials handling. At sites known or suspected to have soil or groundwater contamination, construction workers must receive training in hazardous materials operations and a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

### **Oil Pollution Prevention**

The Code of Federal Regulations (40 CFR 112) establishes procedures, methods, equipment, and other requirements to prevent discharges from non-transportation-related onshore and offshore facilities that enter into or upon the navigable waters of the United States or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States. These regulations require facilities with a single tank or cumulative aboveground storage capacities of 1,320 gallons or greater of petroleum to prepare and implement a spill prevention, control, and countermeasure (SPCC) plan (40 CFR 112.1). The purpose of an SPCC plan is to form a comprehensive federal/state spill prevention program that minimizes the



potential for discharges. The SPCC plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility for which the SPCC plan is written.

### **Federal Regulation 49 CFR Part 77**

The Federal Aviation Administration (FAA) is the federal agency that identifies potential impacts related to air traffic and related safety hazards. Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effect of the proposed construction or alteration on operating procedures; determining the potential hazardous effect of the proposed construction on air navigation; identifying mitigating measures to enhance safe air navigation; and charting new objects. Federal Aviation Regulation Part 77 includes the establishment of *imaginary surfaces* (airspace that provides clearance of obstacles for runway operation) that allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing adverse impacts on the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces through which no object should penetrate.

### **Emergency Planning and Community Right-to-Know Act**

The Emergency Planning and Community Right-to-Know Act (EPCRA), from Superfund Amendments and Reauthorization Act Title III, improved community access to information regarding chemical hazards and facilitated the development of business chemical inventories and emergency response plans. EPCRA also established reporting obligations for facilities that store or manage specified chemicals. EPCRA applies to this program because the contractors that conduct cleanup, remove hazardous materials from the Project site, and construct remediation systems would be required to prepare and implement written emergency response plans to properly manage hazardous materials and respond to accidental spills.

## **State**

### **California Code of Regulations**

The California Code of Regulations (Title 22, Sections 66261.20 through 66261.24) contains technical descriptions of the characteristics that would classify wasted material, including soil, as hazardous waste. When excavated, soils with concentrations of contaminants higher than certain acceptable levels must be handled and disposed of as hazardous waste.

### **Government Code Section 65962.5 (Cortese List)**

The provisions in Government Code Section 65962.5 are commonly referred to as the *Cortese List* (after the author of the associated legislation). The list, or a site's presence on the list, has bearing on the local permitting process and CEQA compliance. The Cortese List includes hazardous waste and substances sites, leaking underground storage tank sites, solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit, sites with active cease-and-desist orders and cleanup and abatement orders, and hazardous waste facilities subject to corrective action.

Government Code Section 65962.5 was enacted in 1985 and, as stated in subsection (g), the effective date of the changes called for under the amendments to this section was January 1, 1992. Because this statute was enacted more than 30 years ago, some of the provisions refer to agency activities that are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. For example, although Government Code Section 65962.5 refers to the preparation of a “list,” many changes related to web-based information access have occurred since 1992, and this information is now largely available on the websites of the responsible organizations. Those requesting a copy of the Cortese “list” are now referred directly to the appropriate information resources contained on the websites of the boards or departments that are referenced in the statute.

### **NPDES Construction General Permit**

The Central Valley Regional Water Quality Control Board (RWQCB) administers the stormwater permitting program in the Central Valley Region pursuant to authority delegated under the federal Clean Water Act’s National Pollutant Discharge Elimination System (NPDES) program. Construction activities disturbing 1 acre or more of land are subject to the permitting requirements of the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) and must apply for Construction General Permit coverage. Additional details of the Construction General Permit are provided in Section 3.8, *Geology, Soils, and Paleontological Resources*. Some of the best management practices (BMPs) included in the Construction General Permit include requirements to contain hazardous materials.

### **Unified Hazardous Waste and Hazardous Materials Management Regulatory Program**

In January 1996, the California Environmental Protection Agency adopted regulations implementing the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. A CUPA is the local agency that is responsible for the implementation of the Unified Program. The HazMat Compliance Program is the certified local CUPA for Fresno County.

### **Hazardous Materials Release Response Plans and Inventory Law**

The Hazardous Materials Release Response Plans and Inventory Act of 1985 (Health and Safety Code Sections 25500 et seq.), also known as the Business Plan Act, requires businesses that use hazardous materials to prepare a hazardous materials business plan (HMBP) describing their facilities, inventories, emergency response plans, and training programs. HMBPs contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of. This code and the related regulations in 19 Cal. Code Regs. Section 2620 et seq. require local governments to regulate local businesses’ storage of hazardous materials exceeding certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a HMBP to their local CUPA and to report releases to their CUPA and the state office of emergency

services. The California Governor's Office of Emergency Services is responsible for implementing the accident prevention and emergency response programs established under the Business Plan Act and implementing regulations. See the *Unified Hazardous Waste and Hazardous Management Regulatory Program* section above for more information.

The HMBP would apply to the Project because contractors working on the Project site that use hazardous materials would be required to comply with requirements for the use, handling, transportation, storage, and disposal of hazardous materials. The HMBP would include a spill response plan.

### **Hazardous Waste Handling**

DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. Federal and state laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, if such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Laws and regulations require users of hazardous materials to store these materials appropriately and to train employees to manage them safely.

Under the RCRA, individual states may implement their own hazardous waste programs in lieu of the RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous waste that cannot be disposed of in landfills.

### **Hazardous Materials Transportation**

The State of California has adopted U.S. Department of Transportation regulations for the intrastate movement of hazardous materials; state regulations are contained in Title 26 of the California Code of Regulations. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state. Both regulatory programs apply in California.

The two state agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and Caltrans. The CHP enforces hazardous materials and hazardous waste labeling and packing regulations to prevent leakage and spills of materials in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are the responsibility of the CHP, which regularly inspects licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identification teams at as many as 72 locations throughout the state that can respond quickly in the event of a spill.

Common carriers are licensed by the CHP, pursuant to California Vehicle Code Section 32000. This section requires the licensing of every motor (common) carrier that transports, for a fee,

more than 500 pounds of hazardous materials at one time, and every carrier, if not for hire, that carries more than 1,000 pounds of hazardous material of the type requiring placards.

Every hazardous waste package type used by a hazardous materials shipper must undergo tests that imitate some of the possible rigors of travel. Every package is not put through every test. However, most packages must be able to be kept under running water for a time without leaking, dropped fully loaded onto a concrete floor, compressed from both sides for a period of time, subjected to low and high pressure, and alternately frozen and heated.

### **Occupational Safety**

The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations at least as stringent as those found in CFR Title 29.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and for communicating hazard information related to hazardous substances and their handling. The hazard communication program also requires making material safety data sheets available to employees and documenting employee information and training programs. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

### **Emergency Response**

Pursuant to the Emergency Services Act, California has developed an emergency plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services. The California Governor's Office of Emergency Services coordinates the responses of other agencies, including USEPA, the CHP, the California Department of Fish and Wildlife, the RWQCBs (in this case, the Central Valley RWQCB [Fresno Office]), the local air districts (in this case, the San Joaquin Valley Air Pollution Control District) and local agencies. The State Emergency Plan defines the "policies, concepts, and general protocols" for proper implementation of the California Standardized Emergency Management System, an emergency management protocol that agencies in California must follow during multi-agency response efforts whenever state agencies are involved.

### **Underground Infrastructure**

California Government Code Sections 4216 through 4216.9, "Protection of Underground Infrastructure," require an excavator to contact a regional notification center at least 2 days before excavation of any subsurface installations. Any utility provider seeking to begin a project that

could damage underground infrastructure can call USA North 811, the regional notification center for Northern California. USA North 811 notifies the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area before the start of project activities in the area.

### **2022 California Fire Code**

The 2022 California Fire Code is contained within Title 24, Part 9 of the California Code of Regulations. It is an enforceable set of regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of fire and explosion; dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; and hazardous conditions in the use or occupancy of buildings or premises. It also contains provisions to assist emergency response personnel (International Code Council 2023).

Section 1207 of the 2022 California Fire Code addresses design, construction, operation and maintenance, decommissioning, and hazard response (including for both fire and spill hazards) for electrical energy storage systems. The California Fire Code includes requirements and standards established by the National Fire Protection Association and Underwriters Laboratories (UL) (recently renamed “UL Solutions”). Fresno County and the California Department of Forestry and Fire Protection have adopted the 2022 version of the California Fire Code (CAL FIRE 2023).

## **Local**

### **2000 Fresno County General Plan**

The following goal and policies of the Fresno County General Plan’s Health and Safety Element related to hazardous materials apply to the Project:

**Goal HS-F:** To minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

**Policy HS-F.1:** The County shall require that facilities that handle hazardous materials or hazardous wastes be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.

**Policy HS-F.3:** The County, through its Hazardous Materials Incident Response Plan, shall coordinate and cooperate with emergency response agencies to ensure adequate countywide response to hazardous materials incidents.

**Policy HS-F.4:** For redevelopment or infill projects or where past site uses suggest environmental impairment, the County shall require that an investigation be performed to identify the potential for soil or groundwater contamination. In the event soil or groundwater contamination is identified or could be encountered during site development, the County shall require a plan that identifies potential risks and actions to mitigate those risks prior to, during, and after construction.

### ***Battery Energy Storage System Codes and Standards***

Energy storage facilities create extreme hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, and chemical burns. Utility-scale energy storage requires specialized and reliable equipment to perform firefighting operations safely and effectively to California Fire Code (described above), National Fire Protection Association (NFPA), OSHA, UL, and Fresno County Fire Protection District codes and standards. These include but are not limited to the following:

#### NFPA:

- 1—Fire Code
- 68—Standard on Explosion Protection by Deflagration Venting
- 69—Standard on Explosion Prevention System
- 70—National Electrical Code
- 855—Standard for the Installation of Energy Storage System
- 111—Stored Electrical Energy Emergency and Standby Power System
- 855—Standard for the Installation of Stationary Energy Storage Systems)
- 1072—Standard for Hazardous Materials/Weapons of Mass Destruction  
Emergency Response Personnel Professional Qualifications
- 1710—Standard for Organization and Deployment of Fire Suppression  
Operations, Emergency Medial Operations, and Special Operations to the Public  
by Career Fire Departments

#### OSHA:

- 29 CFR 1910.134(g)(4)—Respiratory Protection
- 29 CFR 1910.1000—Limits for Air Contaminants. Regulation, Occupational  
Safety and Health Administration

#### Underwriters Laboratories (UL):

- UL 1642—Standard for Lithium Batteries
- UL 1741—Standard for Inverters, Converters, Controllers and Interconnection  
System Equipment for Use with Distributed Energy Resources
- UL 1973—Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power  
and Light Electric Rail (LER) Applications
- UL 9540—Standard for Energy Storage Systems and Equipment
- UL 9540A—Test Method for Evaluating Thermal Runaway Fire Propagation in  
Battery Energy Storage System.

## **3.10.2 Significance Criteria**

The Project would result in a significant impact related to hazards and hazardous materials if it would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area; or
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The environmental checklist included in CEQA Guidelines Appendix G further suggests that the Project would result in significant impacts related to hazards and hazardous materials if it would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Potential impacts related to wildfire are addressed in Section 3.20.

### 3.10.3 Direct and Indirect Effects

#### 3.10.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.2, *Fire Protection*; Section 2.5.9.7, *Emergency Action Plan*; Section 2.5.9.8, *Compliance with Applicable Laws and Standards*; and Section 2.5.9.6, *Pest Management*, could reduce potential Project impacts related to hazards and hazardous materials.

#### 3.10.3.2 Methodology

The following impact analysis considers the potential impacts related to hazards and hazardous materials associated with the Project's construction, operation and maintenance, and decommissioning phases. This analysis assumes Project compliance with applicable federal, state, and local laws and regulations and implementation of the other identified Applicant-proposed measures. Further, state and local agencies are expected to continue to enforce applicable requirements to the extent that they do so now. The analysis is based on Phase I environmental site assessment conducted for the project and through a review of relevant literature and occurrences databases, such as the SWRCB Geotracker and DTSC Envirostor websites. Note that the changes proposed for the Midway Substation consist of changes to equipment that would not

include the use of hazardous materials. Therefore, the Midway Substation is not discussed further in this section.

Impacts related to hazards and hazardous materials would be considered significant if the Project would result in exposure of people and the environment to hazardous materials, be located on a listed hazardous materials site, or have the potential to conflict with an established airport land use compatibility plan or emergency response/evacuation plan.

### 3.10.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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**Impact 3.10-1: The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (*Less-than-Significant Impact*)**

#### **Construction**

During the construction phase, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, all of which are commonly used in construction. The routine use could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. Construction would generate limited amounts of hazardous wastes, such as used lubricants, cleaning solvents, and other chemicals. Additional hazardous wastes that could be encountered or released during construction include contaminated soils, incidental spill waste, and concrete washout. Finally, the known presence of the contaminated soil associated with the AST on-site could potentially pose a risk to the construction crew (skin and eye irritant) and the environment, if excavated and improperly moved to or disposed of in natural habitat or waterways.

As discussed in Section 3.10.1.2, *Regulatory Setting*, and in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, an HMBP would be prepared before the beginning of construction. The plans would be prepared in accordance with relevant federal and state guidelines and regulations (i.e., Health and Safety Code and California Code of Regulations). All hazardous materials would be stored, handled, and used in accordance with applicable regulations, and material safety data sheets would be made available at the construction site for all crew workers. Although such a scenario is not expected, should preexisting hazardous waste be encountered on the Project site, it would be removed and disposed of in a manner consistent with all federal and state regulations.

The HMBP would include protocols to follow to ensure that wastes generated or encountered would be handled, contained, and disposed of according to federal, state, and local regulations. In addition, the HMBP would describe protocols for the use, transport, storage, management, and disposal of hazardous materials. This could include containment and transport in U.S. Department



of Transportation–approved vessels, use of secondary containment, and training of material handlers to ensure worker safety and the reduction of cross contamination. As discussed in more detail in Section 3.8, *Geology, Soils, and Paleontological Resources*, construction contractors would be required to prepare a storm water pollution prevention plan (SWPPP) for construction activities according to the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, and equipment and fuel storage; identify protocols for responding immediately to spills; and describe best management practices (BMPs) for controlling site runoff.

Construction waste would be disposed of properly and in accordance with all applicable federal, state, and local laws regarding solid and hazardous waste, including the California Integrated Waste Management Act of 1989, which set reduction rates for solid waste sent to landfills.

### **Operation and Maintenance**

Once constructed, the operation and maintenance of the Project would result in the transportation, storage, use, and disposal of fewer hazardous materials than during construction. During operation, relatively limited quantities of hazardous materials would be stored on-site in accordance with regulatory requirements and the HMBP. Other than the batteries, hazardous materials stored on-site would include coolants for the HVAC system, fire protection chemicals, diesel fuel for the generator, and small quantities of common commercial cleaning solutions for the office, kitchen, and restroom (e.g., bleach, toilet cleaning solutions). In addition, the cessation of agricultural land use would also result in no use of pesticides. Finally, as discussed in Section 2.5.9.6, *Pest Management*, the Applicant has prepared a Pest Management Plan (provided in Appendix B2) that describes the chemicals that may be used in pest management (e.g., zinc phosphide for rodent bait in traps, and herbicides having U.S. Environmental Protection Agency ratings of the lowest concern). The Pest Management Plan includes a description of spill control measures. Compliance with applicable federal, state, and local regulations and the applicable BMPs and HMBP would ensure that any potential impact would be less than significant during Project operation and maintenance.

### **Decommissioning and Site Restoration**

During decommissioning and site restoration, tanks and vessels containing fuels, hydraulic fluids, and oils would be transferred directly to tanker trucks, the tanks and vessels would be rinsed, and the rinse water then would be transferred to tanker trucks. These hazardous materials would be stored properly until proper disposal or recycling is available. All personnel in charge of handling and disposing of hazardous materials would be trained on how to properly handle these materials. Any enclosure used to store hazardous materials would be monitored regularly to check for leaks or structural failures.

As further discussed in Section 2.5.8.2, *Project Decommissioning*, at the end of the Project's life span, the steel, aluminum, and concrete components of the energy storage system and substation would be recycled. Batteries from the energy storage system may include lithium-ion, which degrades but can also be recycled or repurposed. Electrical conduit and other structures and materials that break off more than 4 feet underground would be decommissioned and abandoned

in place. Metal and scrap equipment and parts that do not have free-flowing oil would be sent for salvage at local recycling facilities. It is anticipated that oils and batteries would be recyclable and would be disposed of at the proper facilities.

As discussed in Appendix B1, *Reclamation Plan*, a final Reclamation Plan will be prepared during the environmental review process. The plan will then be updated and finalized in coordination with the final design plans and will be submitted with the Project's grading and building permit applications. Relative to hazardous materials, the reclamation plan would require all decommissioning, reclamation, and restoration activities adhere to the requirements of appropriate governing authorities and in accordance with all applicable federal, state, and local permits. Appropriate temporary (construction related) erosion and sedimentation control best management practices (BMP) would be used during the reclamation phase of the Project.

Compliance with applicable federal, state, and local requirements and related BMPs and plans would ensure that the Project would not create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials. Therefore, this impact would be less than significant.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would 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.

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**Impact 3.10-2: The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment. (*Less than Significant Impact with Mitigation Incorporated*)**

During all Project phases, activities may involve the transportation, storage, use, and/or disposal of a variety of hazardous materials, including batteries, hydraulic fluid, diesel fuel, gasoline, grease, lubricants, paints and thinners, solvents and cleaning solutions, and glues and adhesives. Accidents or mechanical failures involving heavy equipment could result in the accidental release of fuel, lubricants, hydraulic fluid, or other hazardous substances. As discussed in Section 3.10.1.1, *Environmental Setting*, the Phase I assessment identified the existence of an on-site natural gas pipeline and petroleum and natural gas easements, and an on-site diesel AST with stained soil associated with the on-site water supply well. The accidental release (e.g., breaking the natural gas pipeline during construction activities) or exacerbation of an existing release of hazardous materials (e.g., spreading contaminated soil from the diesel AST located on the western boundary of Assessor's Parcel Number 085-040-58 into drainages that lead to waterways) could create a significant hazard to the public or the environment. Finally, the Project site has a history of agricultural use that may have included the use of pesticides, residual levels of which could remain in soil at the Project site.

## Battery Energy Storage System Components

Accidental hazards for lithium-ion batteries include a potential for overheating, swelling, electrolyte leakage venting, fires, smoke, and explosions in worst-case scenarios involving thermal runaway (ACS 2022).<sup>2</sup> Failures associated with lithium-ion batteries are described to be deflagration in nature.<sup>3</sup> The gases (e.g., hydrogen, carbon monoxide, methane, ethylene, and propylene) produced as a result of a fire, smoke, and/or thermal runaway can accumulate to a combustible level in the installation location and cause an explosion (detonation). In general, the off-nominal conditions that can cause the occurrence of catastrophic events with lithium-ion batteries can be categorized into electrical, mechanical, and environmental types. The most common electrical hazards are over-charge, over-discharge, and external and internal short circuits. Environmental hazards include off-nominal conditions, such as temperatures beyond the manufacturer's recommended range. Other environmental hazard causes include floods and rain entering the batteries. Mechanical hazards include vibration, shock, and impact encountered under transportation conditions. As discussed in Section 2.5.9.2, *Fire Protection*, flow batteries are generally not flammable and do not require fire suppression systems.

As listed in Section 3.10.1.3, *Regulatory Setting*, under *Battery Energy Storage System Codes and Standards*, there are numerous regulations for the construction and operation of battery energy storage systems. These include requirements for the components that compose the systems; the installation of the systems; the enclosures within which the systems are contained; hazard detection systems; fire protection systems; temperature and venting components; and training to evaluate for and respond to hazards. The battery modules would be sealed such that in the unlikely event of a fluid leak, fluids would be contained. As discussed in Section 2.5.9, *Applicant-Proposed Measures and Design Features*, in Chapter 2, *Project Description*, the Applicant would implement the fire protection, prevention, and detection measures and design features in accordance with the 2022 California Fire Code, including redundant separate methods of failure detection. In addition, the Applicant would develop an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations such as Health and Safety Code Section 25504(b), *Hazardous Materials Business Plans*; and 19 Cal. Code Regs. 2658, *Emergency Response Plans and Procedures*. The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the Fresno County Fire Department and the energy storage system supplier, and would include defined roles and responsibilities and training for local first responders.

Compliance with applicable federal, state, and local requirements and implementation of Applicant design features would ensure that the Project would not create a significant hazard to the public through the accidental release of hazardous materials. Therefore, this impact would be less than significant.

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<sup>2</sup> *Thermal runaway* describes a process that is accelerated by increased temperature, in turn releasing energy that further increases temperature. Thermal runaway occurs in situations where an increase in temperature changes the conditions in a way that causes a further increase in temperature, often leading to a destructive result. It is a kind of uncontrolled positive feedback.

<sup>3</sup> *Deflagration* is combustion that propagates through a gas or across the surface of an explosive at subsonic speeds, driven by the transfer of heat.

### General Accidental Spills

Accidental spills resulting from construction activities are typically small and localized and are cleaned up in a timely manner. Construction contractors are contractually responsible for their hazardous materials and are required under their contract to store and dispose of these materials properly in compliance with federal and state laws, including through implementation of a HMBP. As discussed in Impact 3.10-1, above, the HMBP would include BMPs for construction activities, as well as spill control and spill response measures. In the unlikely event of a spill, the HMBP would include appropriate measures to ensure that workers cease work activities to contain any release and enact the protocols for cleanup, including the notification of appropriate agencies and the use of materials stored on-site (e.g., absorbent pads) to minimize the spread or exposure. In addition, as discussed previously, the Project would require coverage under the Construction General Permit, and thus would be subject to the protections included in a SWPPP, which would outline BMPs to contain a potential release and to prevent any such release from reaching an adjacent waterway or stormwater collection system (e.g., erosion control, sediment control, and waste management). Therefore, implementation of the requirements of HMBPs and the site-specific SWPPP would ensure that accidental spills would not adversely affect construction workers or the environment. Compliance with applicable federal, state, and local requirements and implementation of Applicant design features would ensure that the Project would not create a significant hazard to the public through the accidental release of hazardous materials. Therefore, this impact would be less than significant.

### Underground Utilities

As discussed in 3.10.1.2, *Regulatory Setting*, state law requires an excavator to contact a regional notification center (i.e., USA North 811) to identify any underground utility before excavation activities. As such, any utilities would be identified before excavation. In addition, and as shown on the site plans in Chapter 2, *Project Description*, the Project design has accounted for the location of the natural gas pipeline and easement. Therefore, the natural gas pipeline would not be disturbed during construction activities. Therefore, this impact would be less than significant.

### Diesel Aboveground Storage Tank

As discussed in Section 3.10.1.2, *Environmental Setting*, under *Hazardous Materials Database Search*, soil around the diesel AST along the western portion of the northernmost Project site parcel (Location C on Figure 3.10-1) is stained with diesel fuel. The concentration of diesel has not been determined, and it is unknown whether the concentration of diesel is high enough to pose a risk to construction workers or the environment. As discussed in Section 2.5.5.1, *Water and Wastewater*, in Chapter 2, *Project Description*, the existing on-site water supply well may be used for water supply or may be capped and left in place. In either case, the area of contaminated soil may be disturbed during construction or operations. To reduce the potential adverse impact of the known contaminated soil, and to mitigate currently unknown contaminated soil that may be discovered during construction activities, the Applicant would implement **Mitigation Measure 3.10-1**, described further below to ensure that the contaminated soils associated with the AST are handled, removed, and disposed of properly. With implementation of this mitigation measure, this impact would be less than significant.

### **Residual Pesticides in Soil**

As discussed in Section 3.10-1, *Environmental Setting, Hazardous Materials Database Search*, the Project site has been used for agricultural purposes and could have residual levels of pesticides soil and/or groundwater; the specific pesticides used at the project site are unknown. If pesticides were applied consistent with their intended use, the residual concentrations of pesticides would be expected to be below levels that would pose a risk to human health or the environment. However, given that the specific pesticides and nature of use are unknown, residual levels could pose a risk to construction workers or the environment. To reduce the potential adverse impact of the known contaminated soil, and to mitigate currently unknown contaminated soil that may be discovered during construction activities, the Applicant would implement **Mitigation Measure 3.10-1**, set forth below, to ensure that the contaminated soils associated with previous agricultural land use tested, and if above regulatory action levels, removed and disposed of properly. With implementation of this mitigation measure, this impact would be less than significant.

**Mitigation Measure 3.10-1: Soil Management Plan.** The Applicant shall require that its contractor(s) develop and implement a soil management plan before the start of any ground-disturbing activity. The soil management plan shall describe the hazardous materials that may be encountered (specifically, the previously noted areas that may have contaminated soil); the roles and responsibilities of on-site workers and supervisors; training for site workers focused on the recognition of and response to encountering hazardous materials; and protocols for testing the soil to evaluate the proper handling, removing, transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner.

Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action. If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall

prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.

**Significance after Mitigation:** Less than significant. Implementing Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations. This would prevent adverse water quality effects from management of a contaminated material and adverse effects on construction workers, the public, and the environment.

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**Criterion c)** Whether the Project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

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The Project site is not located within 0.25 mile of a school. The nearest schools are Huron Migrant Head Start and Huron Middle School, each approximately 4 miles northeast of the Project site. The Project would not emit hazardous emissions or handle hazardous materials within 0.25 mile of a school; no impact would occur. (*No Impact*)

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**Criterion d)** Whether the Project would 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.

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As documented in the Phase I assessment included as Appendix H, the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List), nor is it near any such site. An independent review of the EnviroStor and GeoTracker hazardous materials databases confirms that the Project site is not included in those databases and that there are no active or closed hazardous materials sites within the boundaries of the Project site. Therefore, the Project would cause no impact under this criterion. (*No Impact*)

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**Criterion e)** Whether the Project would be 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 result in a safety hazard or excessive noise for people residing or working in the Project area.

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The Project site is not located within 2 miles of a public or public use airport. The nearest airports are the New Coalinga Municipal Airport (approximately 8 miles west of the Project site) and the Harris Ranch Airport (approximately 9 miles northwest of the Project site). The Project would not result in a safety hazard or excessive noise for people residing or working in the area; no impact would occur. (*No Impact*)

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**Criterion f)** Whether the Project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

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No specific evacuation routes are delineated in the Fresno County Multi-Jurisdictional Hazard Mitigation Plan (Fresno County 2018), Master Emergency Services Plan (Fresno County 2017), or Fresno County General Plan (Fresno County 2000). Evacuation routes would be identified and coordinated by local law enforcement and emergency service responders as needed during an emergency. Because no adopted emergency response plan or emergency evacuation plan applies to the Project, the Project would have no impact on an adopted plan. However, the possibility remains that construction of the Project could affect emergency response or evacuation should either be required.

**Impact 3.10-4: The Project could impair implementation of or physically interfere with emergency response or emergency evacuation. (*Less than Significant with Mitigation Incorporated*)**

As discussed in Section 2.5.9.7, *Emergency Action Plan*, in Chapter 2, *Project Description*, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 25504[b]; 19 Cal. Code Regs. Section 2731; 22 Cal. Code Regs. Section 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the Fresno County Fire Department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders. With successful implementation of the emergency action plan, impacts on emergency response would be less than significant.

The Project site is bordered to the north by West Jayne Avenue, which connects State Route 269 (South Lassen Avenue) and Interstate 5 (I-5), approximately 1.5 mile east and 1,700 feet southwest of the Project site, respectively. There are several other pathways to I-5 and there are no residences or businesses near the Project site. However, the installation of the power lines across West Jayne Avenue would require a short-term temporary closure during the stringing activities. This short-term temporary closure would cause a significant adverse impact if it were to prevent or delay emergency response or evacuation such that it resulted in a significant hazard to the public or the environment.

To ensure that the installation of the power lines across West Jayne Avenue would not delay emergency response vehicles or preclude evacuation efforts, implementation of **Mitigation Measure 3.10-2** is required. Mitigation Measure 3.10-2 requires the preparation and implementation of a traffic management plan addressing traffic safety and control through the work zone, including during temporary lane closures, and requires that appropriate signage be provided along the affected routes to indicate the hazard and advise alternative routes.

**Mitigation Measure 3.10-2: Construction Traffic Management Plan.** At least 30 days prior to the issuance of construction or building permits, including for the initiation of on-site work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the Caltrans *Manual on Uniform Traffic Control Devices* and *Work Area Traffic Control Handbook* and must include, but not be limited to, the following elements:

- A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.
- Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.
- Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.
- Requirement to place temporary signage, 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 and to advise of alternate routes.
- Measures to ensure access for emergency vehicles to the Project site.
- Maintenance of access to adjacent properties.
- Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.
- Requirement to obtain all necessary permits for the work within the road right-of-way or the use of oversized/overweight vehicles that would utilize County-maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.
- A secured agreement between the Applicant and Fresno County to ensure that any County roads that are demonstrably damaged by Project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the state and/or Fresno County.

The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways.

**Significance after Mitigation:** Less than significant. The traffic management plan elements listed above would reduce the potentially significant effects of construction-related blockage or congestion of West Jayne Avenue that could substantially delay emergency response or preclude evacuation such that a significant hazard to the public or the environment resulted.



### ***PG&E Infrastructure***

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line on lattice towers each up to 200 feet tall on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

Incremental impacts specific to the PG&E work would be less than significant related to exposure of people and the environment to hazardous materials, to being located on a listed hazardous materials site, and to the potential for a project to conflict with an established airport land use compatibility plan.

As discussed in Impact 3.10-4, installation of the power lines across West Jayne Avenue to the Gates Substation would require a short-term, temporary closure during the stringing activities. To ensure that the Project would not substantially delay emergency response or preclude evacuation such that a significant hazard to the public or the environment would result, implementation of Mitigation Measure 3.10-2 would be required. However, because PG&E is not an applicant subject to the mitigation measures identified in this Draft EIR, the Applicant would be responsible for compliance with any necessary mitigation. PG&E will comply with the CPUC's General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to hazards would consist of Mitigation Measure 3.10-2.

The proposed activities of minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation property in Buttonwillow would occur entirely within the facility and would not require any road closures or restrictions.

### **3.10.4 Cumulative Effects Analysis**

As discussed above, the Project would cause no impact with respect to the emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of a school; no impact related to location on a site that is included on the Cortese List; and no impact related to location within an airport land use plan or within 2 miles of a public airport or public use airport. Therefore, the Project could not cause or contribute to any cumulative impact related to these considerations. For the remaining hazards and hazardous materials considerations, this section analyzes the potential significance of the cumulative effects of the Project's incremental impact in combination with the incremental impacts of one or more of the cumulative projects identified in Table 3.1-1, *Cumulative Projects List*, discussed in Section 3.1.3.1, *Cumulative Scenario*, and shown in Figure 3.1-1, *Cumulative Projects within 15 Miles of the Project Site*.

For Project impacts to combine with the impacts of other projects, the collective incremental impacts must overlap both geographically and temporally, and thus must threaten the same ecosystem, resource, or people. The geographic area affected by the Project and its potential to

contribute to cumulative impacts related to hazardous materials encompasses and is limited to the Project site and its immediately adjacent area. This is because hazardous materials impacts are generally site specific and depend on the nature and extent of the hazardous materials release, and on existing and future soil and groundwater conditions. For example, hazardous materials incidents tend to be limited to a smaller and more localized area surrounding the immediate spill location and extent of the release. The time frame during which the Project could contribute to cumulative impacts related to hazards and hazardous materials includes the duration of on-site activities.

**Impact 3.10-5: The Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment. (*Less than Significant with Mitigation Incorporated*)**

As described in Section 3.10.3.3, *Direct and Indirect Effects of the Project*, the Project's incremental impacts regarding the transport, storage, use, and disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the battery energy storage system would be less than significant. With implementation of Mitigation Measure 3.10-1, the Project's incremental impacts regarding reasonably foreseeable upset and accident conditions involving accidental spills also would be less than significant.

Current and reasonably foreseeable cumulative projects would be required to comply with all applicable federal, state, and local regulatory requirements, including those described in Section 3.10.1.3, *Regulatory Setting*. Compliance with legal regulations governing hazards and hazardous materials is effective in minimizing releases where emissions or accidental releases tend to be localized and do not combine to become cumulatively considerable. Therefore, based on compliance with these requirements, the incremental impacts of the Project combined with impacts of other projects in the relevant geographic area would not cause or contribute to a significant cumulative impact related to the transport, storage, use, and disposal of hazardous materials or reasonably foreseeable upset and accident conditions, and the Project's incremental contribution to cumulative effects would not be cumulatively considerable. This impact would be less than significant with the implementation of Mitigation Measure 3.10-1.

**Mitigation:** Implement Mitigation Measure 3.10-1.

**Impact 3.10-6: The Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation. (*Less than Significant with Mitigation Incorporated*)**

The proposed transmission line installation would cause temporary closure of West Jayne Avenue and, as a result, could preclude or substantially delay emergency response or evacuation such that a significant hazard to the public or the environment would result if an emergency were to occur while the road was closed. Implementation of Mitigation Measure 3.10-2 would reduce this impact to less than significant at the Project level. Because none of the cumulative projects would require temporary or permanent closure of West Jayne Avenue, there is no significant cumulative

impact to which the Project could contribute and, as mitigated, the Project's incremental less-than-significant impact would not cause one. This impact would be less than significant with the implementation of Mitigation Measure 3.10-2.

**Mitigation:** Implement Mitigation Measure 3.10-2.

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### 3.10.5 References

ACS (American Chemical Society), 2022. "Battery Hazards for Large Energy Storage Systems." *ACS Energy Letters* 7:2725–2733. July 25, 2022.

CAL FIRE (California Department of Forestry and Fire Protection), 2023. Email communication between CAL FIRE, Fresno County Fire Department, and ESA (Environmental Science Associates). April 11 and 12, 2023.

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International Code Council, 2023. 2022 California Fire Code, Title 24, Part 9. Available: <https://codes.iccsafe.org/content/CAFC2022P1>. Accessed January 10, 2023.

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State Water Board (State Water Resources Control Board) and Department of Toxic Substances Control (DTSC), 2023. GeoTracker and Envirostor Sites near Midway Substation, Buttonwillow, California. August 19.

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## 3.11 Hydrology and Water Quality

This section identifies and evaluates issues related to hydrology and water quality. It describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to hydrology or water quality (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on a site-specific water supply assessment prepared for the Project on the Applicant's behalf (**Appendix L**, *Water Supply Assessment*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance on (in combination with other materials included in the record) in the preparation of this Draft EIR.

### 3.11.1 Setting

#### 3.11.1.1 Study Area

For the purposes of this hydrology and water quality analysis, the study area relative to surface water consists of the Arroyo Vadoso subwatershed, including agricultural ditches or other drainage features that convey stormwater or surface flow to receiving waters (USGS 2013). The study area for groundwater consists of the Westside Subbasin of the San Joaquin Valley Groundwater Basin (Luhdorff and Scalmanini 2022).

The PG&E Midway Substation property is not included in the study area for hydrogeology and water quality because the proposed activities would consist only of minor modifications (replacement and upgrades) to equipment within the existing facility that would not require any ground disturbance or significant use of water.

#### 3.11.1.2 Environmental Setting

The Project site is located in the San Joaquin Valley, bounded by the Sacramento–San Joaquin Delta to the north, the Sierra Nevada to the east, the Tehachapi Mountains to the south, and the Diablo Range (part of the Coast Ranges) to the west (DWR 2015). The Project site is within the Tulare Lake Hydrologic Region, which encompasses Kings, Tulare, Fresno, and Kern counties and is internally drained by the Kings, Kaweah, Tule, and Kern rivers. Average annual precipitation in the Project vicinity is 6–11 inches and generally falls between October and April.

#### **Surface Hydrology**

The site is located in the Great Valley Geomorphic Province of California (Terracon 2019). The Great Valley is characterized mainly by sedimentary strata from the Sierra Nevada and Coast Ranges. Surface geology near the site is characterized as Quaternary Alluvium, consisting of alluvial gravel, sand, and clay of the valley areas.

The Project site is in the California Region hydrologic unit, Arroyo Vadoso subwatershed, which has a drainage area of 28,623 acres (USGS 2013). The Project site is at an elevation of approximately 400 feet above mean sea level and has generally flat topography. There are no surface streams in the immediate vicinity of the Project site. Natural drainages in the surrounding vicinity include the intermittent Arroyo Vadoso, approximately 2.5 miles south of the site; the perennial Zapato Chino Creek (west of Interstate 5), approximately 3 miles to the west; and Los Gatos Creek, an ephemeral waterway 3.5 miles north of the site.<sup>1</sup> The human-made California Aqueduct is 4 miles east of the Project site and is listed on the 303(d) list of impaired waters for pH with sources unknown (State Water Board 2022). Los Gatos Creek, with a segment of 49 miles within Fresno County, is listed as impaired<sup>2</sup> for pollutants, including lead and selenium, with sources unknown (State Water Board 2022). Arroyo Vadoso and Zapato Chino Creek are not listed as 303(d) impaired water bodies.

### **Groundwater**

The Project site is within the Westside Subbasin of the San Joaquin Valley Groundwater Basin (Luhdorff and Scalmanini 2022). The Westside Subbasin includes 972 square miles of Fresno and Kern counties and consists primarily of Quaternary and Tertiary-age unconsolidated sediments. The upper and lower water-bearing zones of the subbasin are recharged by natural surface water, applied agriculture irrigation water, and subsurface inflow. The primary sources of recharge are infiltration of surface water from streams located along the eastern front of the Coast Ranges and deep percolation of agricultural irrigation water. Municipal and irrigation groundwater well yields within the Westside Subbasin average 1,100 gallons per minute (gpm) and range from 560 gpm to 2,000 gpm.

The Westside Subbasin has been identified as being in a state of critical overdraft, and the Westside Subbasin is listed as a high-priority basin. Westlands Water District (WWD) is the groundwater sustainability agency for the Westside Subbasin and adopted the groundwater sustainability plan (GSP) prepared by Luhdorff and Scalmanini (2022), as discussed in additional detail below under *Sustainable Groundwater Management Act* in Section 3.11.1.3, *Regulatory Setting*.

The Project site has one former water supply well, located along the west side of the northernmost Project site parcel (see Location C on Figure 3.10-1, in Section 3.10, *Hazards and Hazardous Materials*). The U.S. Geological Survey identification number for this well is 360803120081201 (State Water Board 1968). The well is 2,074 feet deep; well screen interval details are unknown (USGS 2023). The most recent water quality results are from 1968. The total

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<sup>1</sup> An *intermittent stream* flows during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. A *perennial stream* has flowing water year-round during a typical year. An *ephemeral stream* has flowing water only during or for a short duration after precipitation events in a typical year.

<sup>2</sup> An *impaired water* means a water body or water body segment that does not meet its applicable water quality standards due in whole or in part to discharges of pollutants from point or nonpoint sources.

dissolved solids concentration was 710 milligrams per liter (mg/L), just above the secondary drinking water standard of 500 mg/L.<sup>3</sup>

### ***Flood Potential***

The Federal Emergency Management Agency (FEMA) is responsible for mapping areas subject to flooding during a 100-year flood event (i.e., a flood event with 1 percent chance of occurring in any given year). The Project site is located in an area designated as Zone X, an area of minimal flood hazard (FEMA 2009).

### ***Tsunami and Seiche Hazards***

*Tsunamis* are ocean waves generated by vertical movement of the sea floor, normally associated with earthquakes or volcanic eruptions. *Seiches* are oscillations of enclosed or semi-enclosed bodies of water that result from seismic events, wind stress, volcanic eruptions, underwater landslides, and local basin reflections of tsunamis. The Project site is not near the ocean or any large water bodies.

## **3.11.1.3 Regulatory Setting**

### ***Federal***

#### **Clean Water Act**

The Federal Water Pollution Control Act Amendments of 1972 are more commonly known as the Clean Water Act. Major changes have been introduced since 1972 in amendatory legislation including the Clean Water Act of 1977 and the Water Quality Act of 1987.

The Clean Water Act is the primary federal law governing water pollution. Its objective 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. It is one of the first and most influential modern environmental laws in the U.S. As with many other major federal environmental statutes, it is administered by the U.S. Environmental Protection Agency (USEPA), in coordination with state governments. Its implementing regulations are codified at 40 C.F.R. Subchapters D, N, and O (Parts 100-140, 401-471, and 501-503).

The Clean Water Act authorizes federal, state, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. Amendments to the Clean Water Act in 1972 established the National Pollutant Discharge Elimination System (NPDES) permit program, which prohibits discharge of pollutants into the nation's waters without procurement of a NPDES permit from the USEPA. The purpose of the permit is to translate general requirements of the Clean Water Act into specific provisions tailored

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<sup>3</sup> *Secondary drinking water standards* are guidelines or recommendations by the U.S. Environmental Protection Agency (USEPA) for 15 contaminants that affect the aesthetics, technical use, or consumer acceptance of drinking water. They are not enforced by USEPA but may be regulated by states or state health departments. They are related not to health risks, but to issues such as taste, odor, color, corrosivity, foaming, and staining.

to the operations of each organization that is discharging pollutants. Although federally mandated, the NPDES permit program is generally administered at the state and regional levels.

The USEPA NPDES program requires NPDES permits for: (1) Municipal Separate Storm Sewer Systems (MS4) Permit generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs five acres or more of land. As of March 2003, Phase II of the NPDES Program extended the requirements for NPDES permits to numerous small municipal separate storm sewer systems, construction sites of 1 to 5 acres, and industrial facilities owned or operated by small municipal separate storm sewer systems, which were previously exempted from permitting.

The following sections discuss specific relevant sections of the Clean Water Act.

#### Clean Water Act Section 303(d): Congressional Declaration of Goals and Policy

Section 303 of the Clean Water Act (33 U.S.C Section 1251) requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all waters of the U.S. Under Section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. Impaired waters are waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish a priority ranking for listed waters and develop action plans to improve water quality. This process includes development of Total Maximum Daily Loads (TMDLs) that set discharge limits for non-point source pollutants.

#### Clean Water Act Section 402: National Pollutant Discharge Elimination System

Clean Water Act Section 402 (33 USC Section 1341) establishes the National Pollutant Discharge Elimination System (NPDES) permit program process. In California, NPDES permitting authority is delegated to, and administered by the nine Regional Water Quality Control Boards (RWQCBs). Pursuant to Section 402, a discharge of any pollutant from a point source into navigable waters, are prohibited unless an NPDES permit is obtained. Point sources are discrete conveyances such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The NPDES permit program is discussed in detail below in the *State* section.

#### **Federal Emergency Management Agency National Flood Insurance Program**

Under Executive Order 11988, FEMA is responsible for management of *floodplain areas*, defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year (the 100-year floodplain). FEMA's mission is to support citizens and first responders to ensure that the United States builds, sustains, and improves capabilities to prepare for, protect against, respond to, recover from, and mitigate all hazards. Regarding flooding, FEMA provides information, guidance, and regulation associated with flood prevention, mitigation, and response. Under the provisions of Executive Order 11988, FEMA



requires each local government covered by the federal flood insurance program to enact and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. Through its Flood Insurance and Mitigation Administration, FEMA manages the National Flood Insurance Program, which includes flood insurance, floodplain management, and flood hazard mapping functions. FEMA determines flood elevations and floodplain boundaries and distributes the flood insurance rate maps used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations. Those regulations enable FEMA to require municipalities participating in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

## **State**

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act (California Water Code Division 7, Section 13000 et seq.) provides for protection of the quality of waters of the state of California for use and enjoyment by the people of California. The California Legislature has assigned primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Board and its nine RWQCBs. The State Water Board provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of federal and state regulations. The nine RWQCBs adopt and implement water quality control plans throughout California that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. Pursuant to the Clean Water Act NPDES program, the Porter-Cologne Water Quality Control Act also delegates authority to the RWQCBs to issue NPDES permits.

### **Water Quality Control Plan—Tulare Lake Basin**

The Project site is located within the jurisdiction of the Central Valley RWQCB (Region 5). Region 5 is the jurisdiction tasked with implementing the adopted *Water Quality Control Plan for the Tulare Lake Basin* (Basin Plan) through planning, permitting, and enforcement of established water quality objectives (Central Valley RWQCB 2018). In accordance with the State Policy for Water Quality Control, Region 5 employs a range of beneficial use designations for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives, discharge conditions, and prohibitions (**Table 3.11-1**). The Basin Plan has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdictional planning area. The existing beneficial uses designated in the Basin Plan for surface water and groundwater in the study area, defined as the area of influence within the Westside Groundwater Basin, include agricultural, industrial process water, and municipal uses. Multiple other beneficial uses are designated for water bodies in the surrounding area, as shown in Table 3.11-1 (Central Valley RWQCB 2018).

**TABLE 3.11-1  
 DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE STUDY AREA**

| Water Body                                      | Designated Beneficial Uses                   |
|---|--|
| Valley Floor Waters                             | AGR, IND, PRO, REC-1, REC-2. WARM, RARE. GWR |
| Pleasant Valley and Westside Groundwater Basins | MUN, AGR, IND                                |

NOTES:

Existing and Potential Beneficial Uses Key:

AGR = Agricultural Supply; COLD = Cold Freshwater Habitat; GWR = Groundwater Recharge; IND = Industrial Service Supply; MUN = Municipal and Domestic Supply; PRO = Industrial Process Supply; RARE = Rare Threatened and Endangered Species; REC-1 = Body Contact Recreation; REC-2 = Noncontact Recreation; WARM = Warm Freshwater Habitat; WILD = Wildlife Habitat.

SOURCE: Central Valley RWQCB 2018

**NPDES General Permit for Discharges of Stormwater Associated with Construction Activities (Order 2022-0057-DWQ)**

The NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order WQ 2022-0057-DWQ, NPDES No. CAS000002), commonly referred to as the Construction General Permit, is required for projects that would disturb 1 or more acres of soil during construction. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. Because the Project would disturb 1 or more acres of soil, it would be subject to the Construction General Permit. A storm water pollution prevention program (SWPPP) would be required for the Project if it would result in discharges of pollutants into waters of the United States and disturb 1 or more acres of soil.

The SWPPP would include best management practices (BMPs) to be implemented during construction, including erosion control, sediment control, and good housekeeping measures. The BMPs would include dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed. The SWPPP would be submitted to the State Water Board and Fresno County for review and approval before the issuance of any building or grading permits. The Construction General Permit is described in more detail in Section 3.8, *Geology, Soils, and Paleontological Resources*, under *NPDES Construction General Permit*.

**Sustainable Groundwater Management Act**

The Sustainable Groundwater Management Act of 2014 (SGMA) (Water Code Section 10723) provides a framework for the sustainable management of groundwater resources. In groundwater basins designated by the California Department of Water Resources (DWR) as medium and high priority, local public agencies and locally controlled groundwater sustainability agencies are required to develop and implement GSPs or alternatives to GSPs. Each GSP or alternative must include measurable objectives and interim milestones for achieving sustainability goals for the given groundwater basin. Plans must also include a physical description of the basin, including information on groundwater levels, groundwater quality, subsidence and groundwater/surface-

water interaction, historical and projected water demand and supply data, monitoring and management provisions, and a description of how the plan would affect other plans.

The Project site overlies the Westside Subbasin in the western portion of the San Joaquin Valley Groundwater Basin, which is managed by WWD as groundwater sustainability agency under the SGMA. The Westside Subbasin has been identified by DWR as a high-priority groundwater basin under the SGMA and one in a condition of critical overdraft (Luhdorff and Scalmanini 2022).

Municipal and industrial groundwater well locations would be subject to the GSP if the extraction rates exceed 2 acre-feet per year (AFY); however, municipal and industrial users currently are not subject to the allocation management plan.<sup>4</sup> Water is provided through an agreement with WWD and from groundwater through an on-site well. WWD supplements its own water through surface and groundwater purchased through the Central Valley Project (CVP). In drought years, no water allocations from CVP are provided because of the low storage levels in CVP reservoirs. The SGMA also constrains groundwater allocations to maintain adequate water levels in the groundwater basin (and thereby avoid undesirable effects). Thus, groundwater pumping is effectively restricted during drought conditions, for the purposes of groundwater sustainability.

## **Local**

### **Fresno County Ordinance Code**

Title 14 of the Fresno County Ordinance Code specifies regulations to conserve and protect water resources throughout the county. Chapter 14.01 pertains to water conservation to prevent the unreasonable use of county water supplies and regulates the use of water services and facilities. Chapter 14.03 pertains to groundwater management by establishing a policy prohibiting the direct or indirect transfer of groundwater outside of Fresno County. Chapter 14.04 establishes standards and regulations for well construction, pump installation, and well destruction to protect persons from contaminated or polluted water and to maintain groundwater quality.

### **Fresno County 2000 General Plan**

The following policies identified in the Open Space and Conservation Element of the Fresno County General Plan are applicable to the Project:

***Policy OS-A.13:*** The County shall encourage, where economically, environmentally, and technically feasible, efforts aimed at directly or indirectly recharging the county's groundwater.

***Policy OS-A.19:*** The County shall require the protection of floodplain lands and, where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access, and recreation.

***Policy OS-A.23:*** The County shall protect groundwater resources from contamination and overdraft by pursuing the following efforts:

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<sup>4</sup> Pursuant to the GSP, continued extraction of groundwater by any agricultural or municipal and industrial water user will require metering by the January 1, 2025, deadline.

- a. Identifying and controlling sources of potential contamination;
- b. Protecting important groundwater recharge areas;
- c. Encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible;
- d. Encouraging the use of treated wastewater for groundwater recharge and other purposes (e.g., irrigation, landscaping, commercial, and non-domestic uses);
- e. Supporting consumptive use where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area;
- f. Considering areas where recharge potential is determined to be high for designation as open space; and
- g. Developing conjunctive use of surface and groundwater.

**Policy OS-A.25:** The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season unless adequately mitigated to avoid sedimentation of creeks and damage to riparian habitat.

**Policy OS-A.26:** The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff.

**Policy OS-A.27:** The County shall monitor water quality regularly and take necessary measures to prevent contamination, including the prevention of hazardous materials from entering the wastewater system.

**Policy OS-D.3:** The County shall require development to be designed in such a manner that pollutants and siltation do not significantly degrade the area, value, or function of wetlands. The County shall require new developments to implement the use of Best Management Practices (BMPs) to aid in this effort.

### 3.11.2 Significance Criteria

The Project would result in a significant impact related to hydrology and water quality if it would:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - i. result in substantial erosion or siltation on- or off-site,
  - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site,

- iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or
- iv. impede or redirect flood flows;
- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

### 3.11.3 Direct and Indirect Effects

#### 3.11.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of these, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to the analysis below.

In addition, the following Project design features would minimize impacts on water quality:

- No outdoor storage areas are proposed.
- No exterior wash-down areas are proposed.
- No on-site repair or maintenance bays or fueling areas are proposed.
- Pest management would occur only as described in Section 2.5.10.6, *Pest Management*.
- Water quality controls would be maintained on an ongoing basis and periodic inspections would be conducted to ensure proper performance.

The Project has been designed consistent with low impact development standards such as minimizing impermeable surfaces and using gravel surfaces where possible instead of hardscape surfaces. Impermeable surfaces would be broken into individual areas that would drain through gravel, which would help to maximize infiltration and disperse flows, and through bioretention swales and retention basins that would further slow runoff and facilitate infiltration. These design features are shown on the site plans provided as Figure 2-3, *Preliminary Site Plan—Lithium Ion Option*, and Figure 2-4, *Preliminary Site Plan—Lithium Ion and Iron Flow Option*, in Chapter 2, *Project Description*.

#### 3.11.3.2 Methodology

The following impact analysis considers the potential impacts on hydrology and water quality associated with the Project's construction, operation and maintenance, and decommissioning phases. This analysis assumes Project compliance with applicable federal, state, and local laws and regulations and implementation of the other identified Applicant-proposed measures. Further,

state and local agencies are expected to continue to enforce applicable requirements to the extent that they do so now. The analysis considers the potential direct, indirect, and cumulative impacts on water resources and any mitigation measures that would be implemented to avoid or minimize such impacts, as appropriate. This analysis assumes that project design features as described in Chapter 2, *Project Description*, would be implemented to reduce or avoid impacts and that the Project would comply with all regulatory requirements with respect to water quality.

### 3.11.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

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**Impact 3.11-1: The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (*Less than Significant with Mitigation Incorporated*)**

The Project site is located in the Tulare Lake Basin, which is under the water quality jurisdiction of the Central Valley RWQCB. The Project site is within the vicinity of Los Gatos Creek located approximately 4 miles northwest of the site, the California Aqueduct located approximately 4 miles east of the site, Arroyo Vadoso about 2 miles south of the site, and Zapato Chino Creek about 3 miles to the west of the site. As noted in Section 3.11.1.2, *Environmental Setting*, under *Surface Hydrology*, the California Aqueduct and Los Gatos Creek are listed as impaired on the State Integrated Clean Water Act Section 303(d) and 305(b) list: Los Gatos Creek is listed for lead and selenium and the California Aqueduct is listed for pH. A significant impact could occur if Project construction, operation, maintenance, or decommissioning activities would result in a water quality violation or substantially degrade surface water or groundwater quality.

#### Construction and Decommissioning

During site preparation for construction of the energy storage facility, ground alteration would occur including the removal of existing crops, grading, construction of stormwater retention basins, and other earthwork, as described in Section 2.5, *Description of the Project*, in Chapter 2. As listed on Table 2-1, for the Lithium-Ion Battery Option, ground disturbance for Phases 1 through 4 would be 27.6, 22.2, 60.8, and 97.4 acres respectively. As listed on Table 2-2, for the Lithium-Ion and Iron Flow Option, ground disturbance for Phases 1 through 3 would be 56, 43.4, and 108.6 acres respectively. Foundations for the energy storage enclosures, substation, and gentle pole structures would be erected to support the proposed structures. Site plans are provided in Figures 2-3 and 2-4. Decommissioning activities would mirror the soil disturbances associated with construction. A preliminary site reclamation plan has been prepared describing the proposed process for removing site structures following the Project's term of use (see Appendix B2). With the proposed site alteration and soil-disturbing activities during construction and decommissioning, in the absence of measures to prevent contamination, sediment and other pollutants could be mobilized and transported off-site through runoff, which could result in impacts on surface water or groundwater quality.

As discussed in Section 3.8, *Geology, Soils, and Paleontological Resources*, construction contractors would be required to prepare and implement a SWPPP for construction activities in compliance with the NPDES Construction General Permit requirements. The SWPPP would specify best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. 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; identify protocols for responding immediately to spills; and describe BMPs for controlling site runoff. Compliance with this regulation would prevent sediment and other pollutants from being discharged from the Project site and entering waterways or groundwater.

As described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, in Chapter 2, *Project Description*, Applicant-proposed measures are proposed for inclusion as part of the Project to reduce the potential for erosion and limit mobilization of pollutants off-site through runoff during construction. These measures include stabilization of soil piles, dust suppression measures, and suspension of work during high winds. In addition, the Project does not include outdoor storage areas, exterior wash-down areas, and on-site repair or maintenance bays or fueling areas.

As discussed in Section 3.10, *Hazards and Hazardous Materials*, the Project would include preparation of a hazardous materials business plan, which is a regulatory requirement to ensure that hazardous materials are properly transported, stored, used, and disposed of. Given compliance with the requirements of the hazardous materials business plan, the Project would not result in inadvertent releases of potentially toxic substances used during construction. Compliance with these permit conditions and regulatory requirements would ensure the protection of water quality.

Because of the presence of contaminated soil associated with an on-site diesel aboveground storage tank and the possible use of pesticides from previous agricultural activities (described in Section 3.10, *Hazards and Hazardous Materials*, in the context of Impact 3.10-2, and Appendix H), soil-disturbing activities during construction could mobilize contaminated soil, which could adversely affect water quality. As described in Section 3.10, with implementation of Mitigation Measure 3.10-2, *Soil Management Plan*, the potentially significant impacts would be reduced to less than significant.

**Mitigation:** Implement Mitigation Measure 3.10-1: Soil Management Plan (described in Section 3.10, *Hazards and Hazardous Materials*).

**Significance after Mitigation:** Less than significant. Implementation of Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations to prevent adverse water quality effects from the management of contaminated material.

## Operation and Maintenance

During the operation and maintenance of the Project, stormwater falling on the site could runoff and cause erosion. As shown on the site plans, the Project design proposes features consistent with low impact development standards, including bioretention swales and retention basins. These stormwater features would collect and control stormwater flow, direct the flow to bioswales and retention basins that would facilitate infiltration of stormwater into the water table, and slow and control the rate of runoff during storm events. Additionally, the Project would be subject to post-construction requirements of the Construction General Permit, which requires restoration to and maintenance of pre-Project drainage patterns if stormwater has the potential to discharge to waters of the United States. Compliance with the requirements of the Construction General Permit and construction of Project design features would control site runoff and prevent it from degrading water quality through the release of sediment or other pollutants from the Project site during operation and maintenance.

As described in Chapter 2, Section 2.5.5.3, *Hazardous Waste and Hazardous Materials*, operation and maintenance of the Project could involve the use of hydraulic fluids and oils, lubricants, paints and thinners, solvents and cleaning solutions, and diesel fuel for an on-site generator. Improper use of these chemicals could result in a release of chemicals that could adversely affect the water quality of surface waters. During the operation and maintenance phase, the Project would be subject to regulatory requirements that would prevent contamination of surface water and groundwater. As discussed previously, the Project would be required to implement a hazardous materials business plan to ensure that these substances would be used, stored, handled, and transported consistent with regulatory requirements. In addition, during the operation and maintenance phase, the Project would implement a spill prevention, control, and countermeasure plan as described in Section 3.10, *Hazards and Hazardous Materials*, under *Oil Pollution Prevention*, to ensure proper management of diesel fuel stored in aboveground storage tanks. The Project's operation and maintenance impacts would be less than significant.

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**Criterion b)** Whether the Project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

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### **Impact 3.11-2: The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. (*Less-than-Significant Impact*)**

The Project site overlies the Westside Subbasin, which covers an area of 972 square miles in the western portion of the San Joaquin Valley Groundwater Basin. The Westside Subbasin is a high-priority subbasin and one identified by DWR as being in a condition of critical overdraft. The majority of the subbasin is within WWD's service area; WWD serves as the groundwater sustainability agency for the portion of the subbasin in Fresno County where the Project would be located. The pumping of groundwater could substantially decrease groundwater supplies or the addition of impervious surfaces could interfere with groundwater recharge, either of which would



decrease the availability of groundwater supplies to users of groundwater within the subbasin and impede the sustainable groundwater management of the basin.

Project construction would require water for dust control, grading, and site compaction, which could be provided in part through groundwater resources, possibly including the existing on-site water supply well. The water supply assessment prepared for the Project assumed a peak construction and decommissioning water demand of 153.4 AFY for the Project's Lithium Ion Option; a peak construction water demand of 171 AFY was assumed for the Lithium Ion and Iron Flow Option (see Appendix L). Each of the four construction phases would last 1 year, for a total of 4 years of construction. The water supply assessment estimated an annual water demand of 1,036 gallons (0.003 AFY) for the Project's proposed operation and maintenance building uses. Over the Project's life span, this would equate to a total of 767–855 acre-feet of water.

Currently, the approximately 150-acre northern parcel of the Project site is used for growing almonds; the southern two parcels are fallow. The existing almond and citrus orchards on the Project site's northern parcel are irrigated regularly. Although the baseline irrigation use (water demand) for this parcel is unknown, almond orchard irrigation is known to be a water-intensive land use. Typical almond water use is estimated at 3.7 to 4 AFY (CWIN 2022; Pacific Institute 2015). Over a 35-year period of time (roughly equivalent to the Project's operation and maintenance period as explained in Section 2.5.1, *Project Phasing*) and assuming 4 AFY, this would equate to a total of 21,000 acre-feet of water. Therefore, conversion of the existing orchards out of irrigated agriculture would reduce demand for groundwater resources compared to existing conditions.

The Project would alter conditions for groundwater recharge in a high-priority subbasin currently in a condition of critical overdraft. Through the placement of foundations to support the energy storage systems and/or the energy storage containers, the Project would add impervious surfaces on the site, which could reduce the Westside Subbasin's overall groundwater recharge area compared to existing conditions. However, stormwater falling on impervious surfaces would flow into bioswales and detention basins, as shown on the site plans, or would flow off to surrounding pervious soil or gravel base and infiltrate into the ground, as it does now. In either case, impacts of the Project's proposed use of groundwater and addition of impervious surfaces would result in a decrease in groundwater use and no change in groundwater recharge capability across the site. Therefore, the impacts relative to groundwater supply and recharge would be less than significant.

**Mitigation:** None required.

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**Criteria c.i-c.iv)** Whether the Project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) create or contribute runoff water which would

exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows.

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**Impact 3.11-3: The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which: (i) Results in substantial erosion or siltation on- or off-site; (ii) substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) creates or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff; or (iv) impedes or redirects flood flows. (*Less-than-Significant Impact*)**

The Project would result in the construction of an energy storage system facility that would include grading, the construction and use of bioswales and detention basins, and the addition of foundations for the battery enclosures. These activities could change the drainage patterns of the Project site and lead to erosion, siltation, issues with flooding, or pollute runoff.

### **Erosion and Siltation**

The Project is proposed on three parcels of agricultural land that are relatively flat. There are no surface waters in the immediate vicinity (or within 4 miles) of the site. Alteration of the site would take place during construction, operation, and decommissioning. To prepare the site for use as an energy storage facility, site clearing, excavation, trenching, and other site work would take place on approximately 260 acres of the 318-acre site in four phases for the lithium-ion battery option or three phases for the lithium-ion and iron-flow option, as described in Chapter 2, *Project Description*. Given the site's relatively flat topography, erosion during construction is unlikely to be substantial. The implementation of the BMPs required for the previously discussed SWPPP would prevent erosion and siltation during construction through the use of silt fences and straw wattles to capture sediment in the event of rain. The construction and operation of the bioswales and detention basins would prevent erosion and siltation during operation and maintenance by capturing stormwater runoff, thus preventing erosion. The decommissioning of the facility after its useful life would return the site to its current conditions. Therefore, impacts relative to erosion and siltation would be less than significant.

### **On-Site or Off-Site Flooding, or Impedance of Flood Flows**

Drainage patterns would be altered by site grading and other ground-disturbing construction work that could result in on-site or off-site flooding if stormwater is not properly controlled. In addition, the Project would add impervious surfaces such as foundations to support the proposed infrastructure and the energy storage containment structures, which could reduce infiltration and increase flooding. As discussed above, the implementation of the BMPs required for the previously discussed SWPPP would prevent flooding during construction through the use of silt fences and straw wattles to control stormwater and associated sediment. These BMPs would reduce the energy of water flow on the site and slow the flow of water, enabling the water to infiltrate into the subsurface as it does now. The construction and operation of the bioswales and detention basins would prevent flooding during operation and maintenance by capturing runoff and infiltrating stormwater into the subsurface, thus preventing flooding. The decommissioning

of the facility after its useful life would return the site to its current conditions. Therefore, impacts relative to flooding would be less than significant.

### **Planned Stormwater Drainage System**

Under existing conditions, there is no stormwater drainage system that services the Project site. As discussed above, the proposed Project would construct a stormwater capture and infiltration system to manage stormwater. Therefore, there is no stormwater drainage system to be affected by the Project, resulting in no impact.

### **Additional Sources of Polluted Runoff**

As discussed above, stormwater would be captured and infiltrated during construction, operation, and maintenance of the project. Hazardous materials used during construction, operation, maintenance, and decommissioning would be properly stored, used, and disposed of as previously discussed above and in Section 3.10, *Hazards and Hazardous Materials*. The decommissioning of the facility after its useful life would return the site to its current condition. No additional sources of polluted runoff would be created. Therefore, impacts relative to additional sources of polluted runoff would be less than significant.

### **Summary**

The Project proposes design measures, including bioswales and detention basins, which would collect stormwater flows, facilitate infiltration, and slow the rate of runoff, consistent with low impact development standards. The proposed stormwater collection and infiltration systems are shown on the site plans. These stormwater facilities would be designed to retain stormwater during a 100-year, 48-hour rain event consistent with state, regional, and Fresno County requirements. The stormwater would then infiltrate into the subsurface as it does now, but in a controlled fashion to prevent erosion and flooding. Impacts under this criterion would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would be located in a flood hazard, tsunami, or seiche zone, and risk the release of pollutants due to Project inundation.

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The Project would not be located in a flood hazard zone, nor would the site be subject to tsunami or seiche hazards, given its inland location. Because the Project site is not located in the coastal zone or near a large body of water that could be susceptible to seiches, or in a flood hazard zone identified by FEMA, there is no risk of inundation associated with such hazards. Therefore, no release of pollutants from inundation would occur with construction, operation, or eventual decommissioning of the Project. The Project would have no impact associated with this criterion. *(No Impact)*

**Criterion e)** Whether the Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

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**Impact 3.11-4: The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (*Less than Significant with Mitigation Implemented*)**

The local Water Quality Control Plan (Basin Plan) and Sustainable Groundwater Management Plan (GSP) are described in Section 3.11.1.3, *Regulatory Setting, State*. The overall objectives of these plans are to maintain the high quality of surface waters and groundwaters. The GSP also has the objective of maintaining groundwater supplies. As previously discussed, the Project would result in the construction of an energy storage system facility that would include grading, the construction and operation of a battery energy storage system. These activities could adversely affect water quality or reduce groundwater supplies.

As discussed under Impacts 3.11-1 and 3.11-3, construction would involve soil-disturbing activities that would effectively be controlled through implementation of erosion control measures and BMPs as part of the SWPPP in compliance with Construction General Permit. Additionally, Mitigation Measure 3.10-1, *Soil Management Plan*, would be implemented to ensure that contaminated soils associated with a diesel aboveground storage tank (see Location C on Figure 3.10-1) and residual pesticides from previous agricultural activities would be handled, disposed of, and managed in a manner that would not result in mobilization of contaminants into the groundwater table and in compliance with all applicable federal, state, and local regulations. With implementation of these measures and the recommended mitigation, the Project would not affect groundwater quality and thus would not conflict with the water quality objectives of the Basin Plan or GSP and therefore would not interfere with beneficial uses of surface water and groundwater.

As discussed in Impact 3.11-2, the estimated volume of water used over the Project's life span would be less than the current irrigated land use over the same conditional use permit period. This reduction in water use would be consistent with the Basin Plan and the GSP, and impacts would be less than significant.

**Mitigation:** Implement Mitigation Measure 3.10-1: Soil Management Plan (described in Section 3.10, *Hazards and Hazardous Materials*).

**Significance after Mitigation:** Implementation of Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of, and thus would prevent a conflict with or obstruction of the implementation of the Basin Plan or sustainable groundwater management plan.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each

up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. As noted previously, the minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation would not require any ground disturbance. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental contributions of the PG&E infrastructure work to Impacts 3.11-1 through 3.11-4 related to water quality, groundwater supplies and recharge, drainage patterns, flood hazard, tsunami or seiche zones, and conflicts with the Basin Plan or GSP would be less than significant.

**Mitigation:** None required.

### 3.11.4 Cumulative Effects Analysis

This section presents an analysis of the cumulative effects of the Project in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts. Significant cumulative impacts related to hydrology and water quality could occur if the incremental impacts of the Project would combine with the incremental impacts of one or more of the cumulative projects identified in Table 3.1-1, *Cumulative Projects List*, and discussed in Section 3.1.3.1, *Cumulative Scenario*. The locations of the listed projects are shown there on Figure 3.1-1, *Cumulative Projects within 15 Miles of the Project Site*.

The geographic scope of the analysis of cumulative effects includes the Project site, the Arroyo Vadoso subwatershed for surface water (Cumulative Projects 6 through 9), and the Westside Subbasin (all of the cumulative projects). The time frame during which the Project could contribute to cumulative hydrology and water resources effects includes the 40-year term of the requested conditional use permit.

As discussed previously, the Project would result in no impact with respect to being located in a flood hazard, tsunami, or seiche zone. Therefore, neither the Project nor an alternative could cause or contribute to any potential significant cumulative impact with respect to these considerations. The remaining hydrology and water quality considerations are evaluated below.

**Impact 3.11-5: The Project would make a less than cumulatively considerable contribution to cumulative effects relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality. (*Less-than-Significant Impact*)**

Ground disturbance by the Project and cumulative projects could cause the release of sediment and other pollutants into surface water or groundwater. As noted in Table 3.1-1 in Section 3.1, *Introduction to Environmental Analysis*, the cumulative scenario includes multiple projects that, like the Project, involve extensive ground disturbance over relatively flat terrain. Because the topography of the Project site along with the sites of other projects in the cumulative scenario do not contain steep slopes, the potential for erosive conditions is low. Projects that could generate stormwater runoff during soil-disturbing construction activities and discharge to surface waters would be required to adhere to the requirements of the state Construction General Permit and the

conditions of the Fresno County grading permit. Like the Project, these projects would be required to prepare and implement a SWPPP and its associated BMPs along with good housekeeping measures to capture and pre-treat stormwater on-site and effectively control runoff. The regulatory controls and specific requirements contained in the Construction General Permit and Fresno County requirements would reduce the incremental contributions of sediment and other pollutants that could otherwise compromise groundwater or surface waters or violate water quality requirements.

The Project includes bioswales and detention basins to capture and treat stormwater, preventing impacts on water quality. Cumulative projects would be expected to include similar BMPs to capture and treat stormwater. The regulatory controls and specific requirements contained in Fresno County development requirements would reduce the incremental contributions of sediment and other pollutants that could otherwise compromise groundwater or surface waters or violate water quality requirements.

Therefore, based on compliance with these requirements, the incremental impacts of the Project combined with impacts of other projects in the area would not cause a significant cumulative impact related to water quality. The Project's contribution to any related significant cumulative effect would not be cumulatively considerable, and this impact would be less than significant.

**Mitigation:** None required.

**Impact 3.11-6: The Project would not cause a cumulatively considerable contribution to decreased groundwater supplies or substantial interference with groundwater recharge such that the sustainable groundwater management of the basin could be impeded. (*Less-than-Significant Impact*)**

An analysis of cumulative impacts on groundwater considers groundwater extraction associated with the Project when considered along with groundwater extraction from past, current, and reasonably foreseeable future projects. Cumulative projects could increase use of groundwater and decrease groundwater supplies. Cumulative projects could increase impervious areas and interfere with and reduce groundwater infiltration.

WWD, as groundwater sustainability agency for the groundwater basin, is the agency responsible for assessing and planning for the sustainable use of the groundwater basin. WWD manages its water supply portfolio with consideration of these combined uses and their combined effects on the groundwater table associated with cumulative groundwater demand. Impact 3.11-2 discusses the Project's water demand, concluding that the demand on available water supplies would be less than significant, as based on information provided in the Project's water supply assessment (Appendix L). Similarly, cumulative projects would be required to conduct water supply assessments to verify that groundwater or CVP supplies would likely be available without resulting in an appreciable lowering of the groundwater table. The ongoing water demand presented by the Project would be less than under existing (irrigated agricultural) conditions, and thus would not result in direct or indirect impacts that would be cumulatively considerable. Therefore, the incremental impacts of the Project combined with impacts of other projects in the area would not cause a significant cumulative impact related to water supply. The Project's

contribution to cumulative effects would not be cumulatively considerable, and this impact would be less than significant.

Cumulative projects could alter conditions for groundwater recharge by adding impervious surfaces. Similar to the Project, cumulative projects would also be required to address impacts relative to managing stormwater falling on impervious surfaces. Typical BMPs would include capturing stormwater and routing stormwater flow into bioswales and detention basins or having the project designs route stormwater to surrounding pervious areas to infiltrate into the ground, as it does now. Therefore, the impacts relative to interfering with groundwater recharge would be less than significant.

**Mitigation:** None required.

**Impact 3.11-7: The Project would not cause a cumulatively considerable contribution to a significant impact due to substantial alteration of the existing drainage pattern of the site or area. (*Less-than-Significant Impact*)**

Similar to the proposed Project, cumulative projects would be required to implement a SWPPP or comparable pollution prevention plan in compliance with would be implemented for the Project and for other cumulative projects consistent with the state Construction General Permit and local requirements. The regulatory controls and specific requirements contained in the Construction General Permit and Fresno County requirements would prevent the incremental contributions of sediment and other pollutants that could otherwise compromise surface or groundwater through runoff. Low impact development design measures, including features such as bioswales and detention basins to capture, treat, and infiltrate stormwater, would be included as part of the Project and similarly for cumulative projects to prevent erosive or polluted runoff.

Similar to the proposed Project, cumulative projects would be required to prevent flooding by controlling runoff from their site during construction and operation. The regulatory controls and specific requirements contained in the Construction General Permit and Fresno County requirements include capturing and controlling stormwater to prevent on-site and off-site flooding.

As discussed in Impact 3.11-3, the Project does not have and is not connected to an existing or planned stormwater drainage system. Therefore, the Project could not combine with cumulative projects to cumulatively contribute to impacts to stormwater drainage system. In addition, the proposed Project would not result in additional sources of polluted runoff. Therefore, the Project could not combine with cumulative projects to cumulatively contribute to impacts relative to additional sources of polluted runoff.

Therefore, in summary, the incremental impacts of the Project combined with impacts of other projects in the area would not cause a significant cumulative impact related to erosion, siltation, flooding, stormwater drainage systems, or additional sources of polluted runoff. The Project's contribution to cumulative effects would not be cumulatively considerable, and this impact would be less than significant.

**Mitigation:** None required.

**Impact 3.11-8: The Project would not cause a cumulatively considerable contribution that could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (*Less than Significant with Mitigation Incorporated*)**

The Basin Plan and GSP are described in Section 3.11.1.3, *Regulatory Setting, State*. The overall objectives of these plans are to maintain the high quality of surface waters and groundwaters. The GSP also has the objective of maintaining groundwater supplies. As previously discussed, the Project would result in the construction of an energy storage system facility that would include grading, the construction and operation of a battery energy storage system. These activities could adversely affect water quality or reduce groundwater supplies.

Similar to the Project as analyzed under Impacts 3.11-1 and 3.11-3, cumulative projects that include construction that would involve soil-disturbing activities would be controlled through implementation of erosion control measures and BMPs as part of the SWPPP in compliance with Construction General Permit. Additionally, if cumulative projects have the potential to encounter contaminate soil and/or groundwater, those cumulative projects would be required to implement a mitigation measure similar to Mitigation Measure 3.10-1, *Soil Management Plan*, ensure that contaminated soils and/or groundwater would be handled, disposed of, and managed in a manner that would not result in mobilization of contaminants into the groundwater table and in compliance with all applicable federal, state, and local regulations. With implementation of these measures and mitigation, the Project and cumulative projects would not affect groundwater quality and thus would not conflict with the water quality objectives of the Basin Plan or GSP and therefore would not interfere with beneficial uses of surface water and groundwater. The Project's incremental contribution to cumulative effects would not be cumulatively considerable, and this impact would be less than significant.

As discussed in Impact 3.11-2, the estimated volume of water used over the Project's life span would be less than the current irrigated land use over the same conditional use permit period. This reduction in water use would be consistent with the Basin Plan and the GSP. Therefore, the Project could not contribute to a cumulative impact.

**Mitigation:** Implement Mitigation Measure 3.10-1: Soil Management Plan (described in Section 3.10, *Hazards and Hazardous Materials*).

**Significance after Mitigation:** Implementation of Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of, and thus would prevent a conflict with or obstruction of the implementation of the Basin Plan or sustainable groundwater management plan.



### 3.11.5 References

- Central Valley RWQCB (Central Valley Regional Water Quality Control Board), 2018. *Water Quality Control Plan for the Tulare Lake Basin Third Edition Revised May 2018 (with Approved amendments)*.
- CWIN (California Water Impact Network), 2022. *California Almond Water Usage*. July 13, 2022.
- DWR (California Department of Water Resources), 2015. *California Water Plan Groundwater Update 2013*.
- FEMA (Federal Emergency Management Agency), 2009. *National Flood Hazard Layer FIRMette, Panel 06019C3250H, Effective 2/18/2009*.
- Luhdorff and Scalmanini, 2022. *Westside Subbasin Groundwater Sustainability Plan*. July 2022.
- Pacific Institute, 2015. *National Geographic ScienceBlogs: The California Drought: Almonds and the Bigger Picture*. May 28, 2015.
- State Water Board (State Water Resources Control Board), 1968. GAMA Data Display, Well 360803120081201.
- State Water Board (State Water Resources Control Board), 2022. *Final California 2020-2022 Integrated Report (303(d) List/305(b) Report)*.
- Terracon (Terracon Consultants, Inc.), 2019. *Preliminary Geotechnical Engineering Report for the Gates Substation West Jayne Avenue Huron, California*. April 23, 2019.
- USGS (U.S. Geological Survey), 2013. *The National Map – Advanced Viewer, 12-Digit HU (Subwatershed): Arroyo Vadoso*. January 17, 2013.
- USGS, 2023. Water Quality Samples for California: USGS [Well] 360803120081201 021S017E04G001M. Modified July 28, 2023. Available: [https://nwis.waterdata.usgs.gov/ca/nwis/qwdata/?site\\_no=360803120081201&agency\\_cd=USGS&amp;](https://nwis.waterdata.usgs.gov/ca/nwis/qwdata/?site_no=360803120081201&agency_cd=USGS&amp;). Accessed July 28, 2023.

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## 3.12 Land Use and Planning

This section identifies and evaluates issues related to established communities and any conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. It includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to land use and planning (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on the Project-specific land use consistency analyses provided in **Appendix I**, *Land Use and Planning*. The analysis relies on those technical details and the additional materials cited below.

### 3.12.1 Setting

#### 3.12.1.1 Study Area

The study area for the analysis of potential impacts related to land use and planning consists of the 260-acre Project site within the approximately 318-acre area comprising Assessor's Parcel Numbers 085-040-58, 085-040-36, and 085-040-37, as well as the sites of the proposed Project interconnection infrastructure work described in Section 2.5.10 of Chapter 2, *Project Description*.

#### 3.12.1.2 Environmental Setting

Historical agricultural uses on the Project site have included dry farming on two of the parcels (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel via an on-site well (APN 085-040-58). More recently, on-site land uses have included irrigated orchard crops (citrus and almonds) (APN 085-040-58), non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern site boundaries, with the paved West Jayne Avenue forming the northern boundary. Two dirt roads cross east-west through the Project site. Existing utility infrastructure is located throughout the Project site. An existing groundwater well is located in the northwest portion of the Project site. One PG&E electrical line runs north to south along the northwest side of the Project site, and two PG&E-owned high-voltage transmission lines run north to south along the entire east side of the Project site. Underground oil, gas, and water pipelines are found in the center of the southern half of the Project site (Key Energy Storage, LLC 2021a). Existing onsite uses are consistent with the Project site's Fresno County General Plan land use designation of Agriculture and zoning designation of AE-40 (Exclusive Agriculture, 40-acre minimum parcel).

The battery energy storage portion of the Project site is identified as Prime Farmland on maps created by the California Department of Conservation's Farmland Mapping and Monitoring Program. Soils are conducive to agricultural uses and consist of Westhaven loam (irrigated and non-irrigated), Kimberlina sandy loam (irrigated and non-irrigated), and Wasco sandy loam (non-irrigated) (**Appendix C**, *Agricultural Resources: Land Evaluation and Site Assessment [LESA]*). The site is also subject to a Williamson Act contract, pursuant to the California Land

Conservation Act of 1965. See Section 3.3, *Agriculture and Forestry Resources*, for additional details. Land uses surrounding the Project site include solar facilities to the north and southwest, a small substation at the Project site's northwest corner (not included within the Project site), and agriculture to the east, south, and west. The nearest community to the Project site is the city of Huron, located approximately 4 miles to the northeast.

The Gates Substation interconnects a major transmission channel from Diablo Canyon to Path 15, which is California's primary corridor for moving electricity from power plants in Southern California to consumers in the San Francisco Bay area. The site's environmental setting related to land use and planning is consistent with its use consistent with North American Industry Classification System (NAICS) Code 221122, *Electric Power Distribution*, and Standard Industrial Classification (SIC) Code 4911, *Electric Services* (USA.com 2014). NAICS is the standard used by Federal statistical agencies in classifying businesses; Code 221122 businesses are comprised of electric power establishments primarily engaged in either operating electric power distribution systems (i.e., consisting of lines, poles, meters, and wiring) or operating as electric power brokers or agents that arrange the sale of electricity via power distribution systems operated by others. SIC codes are established by the U.S. Securities and Exchange Commission Division of Corporation Finance; Code 4911 signifies the electrical services industry. Land uses surrounding the Gates Substation are the same or similar to those surrounding the energy storage facility site described above.

Existing use of the Midway Substation is consistent with the operation and maintenance of transmission lines and supporting towers, poles, underground facilities, and other infrastructure needed for electricity service. Surrounding land uses include Buttonwillow Park and agricultural uses to the west, and agricultural uses to the north, east, and south.

### **3.12.1.3 Regulatory Setting**

#### ***Federal***

No federal statutes, regulations, plans, or policies govern land use or planning on the Project site.

#### ***State***

##### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because the CPUC regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E's work (as regulated by the CPUC) would not be subject to the County's or Kern County's land use approval requirements. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters" (CPUC 1995).

## **Local**

### **Fresno County General Plan**

The Fresno County General Plan is the County’s long-range planning document. It consists of seven elements: Economic Development; Agriculture and Land Use; Transportation and Circulation; Public Facilities and Services; Open Space and Conservation; Health and Safety; and Housing. The Agriculture and Land Use Element describes the County’s Land Use Diagram and related development standards for land in unincorporated Fresno County, and sets out goals, policies, and implementation programs for Resource Lands (including agriculture), Rural Development (non-agriculture), Urban Development, and Administration (Fresno County 2000).

The public review drafts of the General Plan Background Report, Policy Document, and Zoning Ordinance Update were released on January 26, 2018. On April 14, 2020, the County Board of Supervisors approved a Revised Scope of Work for the General Plan Review and the Zoning Ordinance Update. Public review drafts of the revised General Plan Policy Document, Background Report, and Zoning Ordinance Update were released in July 2021 (Fresno County 2022). The updated General Plan has not been approved, and no resulting revisions to the 2000 General Plan and the Zoning Ordinance have been made. Therefore, the provisions of the 2000 General Plan and the Zoning Ordinance that governed development within the county as of the date of the notice of preparation continue to govern use of the Project site and are considered in this analysis.

The Project site, including the existing Gates Substation, is designated in the General Plan for “Agriculture.” This designation provides for the production of crops and livestock, and for the location of necessary agriculture commercial centers, agricultural processing facilities, and certain non-agricultural activities (General Plan Table LU-3). The Project site is not located within the jurisdiction of a community plan, specific plan, or regional plan as identified by the Fresno County General Plan. The following General Plan goal and policies are relevant to the Project:

**Goal LU-A:** To promote the long-term conservation of productive and potentially productive agricultural lands and to accommodate agricultural-support services and agriculturally related activities that support the viability of agriculture and further the County’s economic development goals.

**Policy LU-A.1:** The County shall maintain agriculturally designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.

**Policy LU-A.3:** The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following applicable criteria:

- The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;

- The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;
- The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (1/4) mile radius;
- A probable workforce should be located nearby or be readily available.

**Policy LU-A.13:** The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

**Policy LU-A.14:** The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.

The following General Plan programs are relevant to the Project:

**Program LU-A.C:** The County shall develop and implement guidelines for design and maintenance of buffers to be required when new non-agricultural uses are approved in agricultural areas. Buffer design and maintenance guidelines shall include, but not be limited to, the following:

- a. Buffers shall be physically and biologically designed to avoid conflicts between agriculture and non-agricultural uses.
- b. Buffers shall be located on the parcel for which a permit is sought and shall protect the maximum amount of farmable land.
- c. Buffers generally shall consist of a physical separation between agricultural and non-agricultural uses. The appropriate width shall be determined on a site-by-site basis taking into account the type of existing agricultural uses, the nature of the proposed development, the natural features of the site, and any other factors that affect the specific situation.
- d. Appropriate types of land uses for buffers include compatible agriculture, open space and recreational uses such as parks and golf courses, industrial uses, and cemeteries.
- e. The County may condition its approval of a project on the ongoing maintenance of buffers.
- f. A homeowners' association or other appropriate entity shall be required to maintain buffers to control litter, fire hazards, pests, and other maintenance problems.
- g. Buffer restrictions may be removed if agricultural uses on all adjacent parcels have permanently ceased. (See Policy LU-A.16)

**Program LU-A.E:** The County shall continue to implement the County's Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in their area. (See Policy LU-A.15)

### **Fresno County Zoning Code**

The energy storage facility site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size) pursuant to Section 816 of the Fresno County Code. The existing Gates Substation site is zoned AE-40 (Exclusive Agriculture, 20-acre minimum parcel size). The “AE” District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district. Permitted uses within the AE district include livestock and poultry (breeding, raising, and maintenance), raising crops, farm dwellings, packaging facilities, and other agriculture-related uses. Uses subject to Fresno County Director review and approval include communications equipment buildings, microwave relay structures, electrical (transmission and distribution) substations, and “commercial land leveling and development establishments when they are not operated in conjunction with, or as part of, a bona fide agricultural operation,” among others.

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County’s land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County’s process for evaluating solar facilities within the county (Fresno County 2017). Although the Project does not propose to develop a solar facility, the County’s identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. Multiple provisions of the Solar Facility Guidelines are relevant to this analysis of potential impacts related to land use and planning, including the following:

1. Information shall be submitted regarding the historical agricultural operational/usage of the parcel, including specific crop type and crop yield, for the last 10 years (if no agricultural operation in the last 10 years, specify when land was last in agricultural use). ...
3. Identify the current status of the parcel (Williamson Act Contract, Conservation Easement, retired land, etc.), the purpose of any easement, and limitations of the parcel. The applicant shall submit a Title Report or Lot Book Guarantee for verification. ...
5. List all proposed measures and improvements intended to create a buffer between the proposed solar facility and adjacent agricultural operations (detailed information must be shown on Site Plan) and provide factual/technical data supporting the effectiveness of said proposed buffering measure. ...
7. Provide information documenting efforts to locate the proposed solar facility on non-agricultural lands and non-contracted parcels and detailed information explaining why the subject site was selected. ...
9. The applicant must acknowledge the County’s Right to Farm Ordinance and shall be required to record a Right to Farm Notice prior to issuance of any permits. This shall be included as a recommended Condition of Approval of the land use entitlement.

10. Note: The life of the approved land use permit will expire upon expiration of the initial life of the solar lease. If the solar lease is to be extended, approval of new land use permit will need to be obtained.
11. If the project is approved, the applicant shall make all reasonable efforts to establish a point of sale in Fresno County for equipment and construction related items necessary for the project.
12. If the project is approved, the applicant shall make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local workforce.
13. In addition to disclosing the number of trips in the required project Operational Statement, the applicant shall disclose the weight of the shipments anticipated to the site. If the project is approved, pursuant to the CEQA analysis and based upon the existing road conditions and the weight/frequency of shipments to the site, the applicant shall mitigate impacts to County roads.
14. If the project is approved, the applicant shall make all reasonable efforts to purchase products and equipment from local (Fresno County) manufacturing facilities and/or vendors.

### **Kern County**

PG&E's existing Midway Substation is located at 2205 Wasco Way in Buttonwillow, an unincorporated community in Kern County, California. In the General Plan, the site is designated "4.1," which is a special treatment area specific to the Midway Substation (Kern County 2023). The site is zoned Limited Agriculture (A-1). According to Kern County Zoning Ordinance Section 19.14.020(D), transmission lines and supporting towers, poles, and underground facilities for electricity service owned and operated by a public utility company under the jurisdiction of the California Public Utilities Commission are allowed without a permit in the A-1 zone.

## **3.12.2 Significance Criteria**

The Project would result in a significant impact related to land use and planning if it would:

- a) Physically divide an established community; or
- b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

## **3.12.3 Direct and Indirect Effects**

### **3.12.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts related to land use or planning.



### 3.12.3.2 Methodology

The location of the Project site relative to established communities and the nature of the proposed use were evaluated, including for consistency with County land use and planning documents and requirements, to determine whether the Project would result in a significant change to existing land use and planning conditions.

### 3.12.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would physically divide an established community.

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As described in Section 3.12.1.2, *Environmental Setting*, the Project site is in an unincorporated area of western Fresno County approximately 4 miles southwest of the city of Huron. Typically, the division of an established community would result from the construction of a physical barrier to neighborhood access or the removal of a means of access. This Project would not physically divide an established community because the construction, operation, and decommissioning phases of the Project do not propose any features that would create a physical barrier that would hinder existing community access. Although the Project's construction, operation, and decommissioning phases would include the erection and presence of perimeter fencing surrounding the energy storage facility portion of the Project site, such features would not create a physical barrier that would physically divide an established community or hinder existing community access. Additionally, the Project would not involve the removal of any existing publicly used means of access. Project elements would not cross through any existing community. Similarly, neither the Gates Substation modifications nor the Midway Substation modifications described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, would physically divide an established community because all work would occur within the existing boundaries of those facilities. Therefore, the Project would have no impact related to criterion a). (*No impact*)

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**Criterion b)** Whether the Project would 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.

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The Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size), pursuant to Section 816 of the Fresno County Code. Although the zoning designation does not allow for energy storage facilities by right, the proposed use may be permitted in this zone district pending the discretionary approval of an unclassified conditional use permit (CUP) under Fresno County Zoning Code Section 853(B). Compliance with conditions of approval for the CUP would ensure that the Project would not conflict with applicable General Plan, zoning, or other County land use plans, policies, or regulations that have been adopted for the purpose of avoiding or mitigating environmental effects. For example, the Project would be consistent with Policy LU-A.13 regarding the County's protection of agricultural operations from conflicts with non-agricultural uses: The Project would maintain a buffer between the Project and adjacent agricultural operations and would

implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning. The Project would be consistent with Policy LU-A.14 regarding County review of discretionary permits as including an assessment of the conversion of productive agricultural land, because potential conversion-related impacts have been addressed in Section 3.3, *Agriculture and Forestry Resources*. See Appendix I, *Land Use and Planning*, for additional details about this Project's consistency with the Fresno County General Plan.

Although the Project does not propose to develop a solar facility, the County has identified a need to maintain flexibility to accommodate new renewable energy technology, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid. Consequently, the Project would be subject to compliance with the Fresno County Solar Facility Guidelines. As described in Section 3.12.1.3, *Regulatory Setting*, these guidelines have been established to protect important farmlands and minimize the impacts of solar projects on adjacent agricultural operations. To meet these requirements, the Project would, for example, maintain a 50-foot buffer between the Project and adjacent agricultural operations and would implement a reclamation plan to return the site to prior agricultural use after Project decommissioning. Further details of the Project's consistency with the Fresno County Solar Facility Guidelines are provided in Appendix I, *Land Use and Planning*.

Neither the Gates Substation work nor the Midway Substation work would 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 because all work would occur within the sites' existing boundaries and would be consistent with existing and allowed uses in those locations.

Therefore, the Project would have no impact related to criterion a). Because the Project would be consistent with applicable provisions of the General Plan, the Zoning Code, and the County Solar Facility Guidelines, it would not cause a conflict with the provisions of any applicable County land use plan, policy, or regulation that would result in a significant environmental impact. (*No Impact*)

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact related to either the physical division of a community or a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental impacts.

**Mitigation:** None required.

### 3.12.4 Cumulative Effects Analysis

Because the Project would cause no impact related to land use and planning, it could not cause or contribute to any cumulative impacts on land use resources.

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### 3.12.5 References

CPUC (California Public Utilities Commission), 1995. General Order 131-D, *Rules Relating to the Planning and Construction of Electric Generation Transmission/Power/Distribution Line Facilities and Substations Located in California*. Adopted June 8, 1994; modified August 11, 1995.

Fresno County, 2000. *Fresno County General Plan Policy Document*. Agriculture and Land Use Element. Adopted by Board of Supervisors December 19, 2000, Resolution No. 00-646. Available: <https://www.co.fresno.ca.us/home/showdocument?id=18117>. Accessed December 12, 2022.

Fresno County, 2017. County of Fresno Solar Facility Guidelines. Revised by Fresno County Board of Supervisors December 12, 2017. Available: <https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/photovoltaic-facilities-p-1621>. Accessed December 13, 2022.

Fresno County, 2022. General Plan Review & Zoning Ordinance Update. Available: <https://www.co.fresno.ca.us/departments/public-works-and-planning/divisions-of-public-works-and-planning/development-services-and-capital-projects/planning-and-land-use/general-plan-review-zoning-ordinance-update>. Accessed December 12, 2022.

Kern County, 2023. Screenshot of General Plan Land use Designation from Kern County Interactive GIS Mapping. Accessed August 15, 2023.

USA.com, 2014. PG&E Gates Substation. March 25, 2014. Available: <http://www.usa.com/frs/pg-e-gates-substation-110058262785.html>. Accessed August 15, 2023.

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## 3.13 Mineral Resources

This section identifies and evaluates issues related to mineral resources. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to mineral resources (**Appendix A, Scoping Report**).

### 3.13.1 Setting

#### 3.13.1.1 Study Area

The study area for this analysis of potential impacts on mineral resources encompasses and is limited to the Project site and its immediately adjacent area, including the Gates Substation. The PG&E Midway Substation site also is included in the study area for mineral resources. The study area is limited to the area within the facility site boundaries because impacts relative to mineral resources are generally site-specific.

#### 3.13.1.2 Environmental Setting

Fresno County historically produces abundant amounts of a wide variety of mineral resources (Fresno County 2000). Mineral resources from Fresno County include aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction or industrial applications (asbestos, high-grade clay, diatomite, granite, gypsum, and limestone). Aggregate and petroleum are the county's most significant extractive resources.

#### ***Mineral Resources***

Multiple sources of information were consulted to determine the presence of mineral resources in the study area. These include the Mineral Resources Data System (MRDS) administered by the U.S. Geological Survey (USGS), which provides data describing mineral resources, including deposit name, location, commodity, deposit description, production status, and references, and which can be used to confirm the presence or absence of existing surface mines, closed mines, occurrences/prospects, and unknown/undefined mineral resources (USGS 2021). According to the available MRDS data, there are no significant mineral resources at or adjacent to the Project site or in the area.

The California Geological Survey (CGS) maps and regulates the locations of potential mineral resources in California consistent with the Surface Mining and Reclamation Act of 1975 (SMARA). To protect these potential mineral resources, the CGS has classified the regional significance of mineral resources into mineral resource zones (MRZs) and mapped them (see Section 3.13.1.3, *Regulatory Setting*, for more details about SMARA and MRZs). The Project site is within an area that has not been mapped under SMARA, and thus is in an area that has not been designated an MRZ (CGS 2021). A query of the Kern County Interactive GIS Mapping tool revealed that there are no MRZs near the Midway Substation (Kern County 2023).

## Oil, Gas, and Geothermal Resources

The California Geologic Energy Management Division (CalGEM)<sup>1</sup> provides oversight of the oil, natural gas, and geothermal industries, and regulates the drilling, operation, and permanent closure of energy resource wells. CalGEM’s online mapping application, WellFinder, was reviewed to determine the presence of any oil, gas, or geothermal resources in and around the Project site. Well Finder data indicate that there are no significant resources at or adjacent to the Project site (CalGEM 2021).

### 3.13.1.3 Regulatory Setting

#### Federal

No federal regulations governing mineral resources apply to the Project.

#### State

SMARA (Public Resources Code Sections 2710–2796) and its implementing regulations (California Code of Regulations [Cal. Code Regs.] Title 14, 3500 et seq.) establish a comprehensive state policy for the conduct of surface mining operations and for reclaiming mined lands to a usable condition that is readily adaptable for alternative land uses. SMARA encourages the production, conservation, and protection of the state’s mineral resources and recognizes that “the state’s mineral resources are vital, finite, and important natural resources and the responsible protection and development of these mineral resources is vital to a sustainable California” (Public Resources Code Section 2711). Under SMARA, the term *minerals* includes “any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum” (14 Cal. Code Regs. 3501).

The CGS maps and regulates the locations of potential mineral resources in California consistent with SMARA. To protect these potential mineral resources, the CGS has classified the regional significance of mineral resources into MRZs and mapped them. **Table 3.13-1** presents descriptions of the MRZ categories. As noted above, the Project site is within an area that has not been given a MRZ designation.

**TABLE 3.13-1**  
**DESCRIPTIONS OF CALIFORNIA MINERAL LAND CLASSIFICATION SYSTEM CATEGORIES**

| Mineral Resource Zone Category | Category Description                      |   |
|--------------------------------|---|---|
| MRZ-1                          | Areas of No Mineral Resource Significance |   |
| MRZ-2                          | Demonstrated Reserves                     | Areas of Identified Mineral Resource Significance   |
| MRZ-3                          | Known Mineral Occurrence                  | Areas of Undetermined Mineral Resource Significance |
| MRZ-4                          | No Known Mineral Occurrence               | Areas of Unknown Mineral Resource Significance      |

SOURCE: SMGB n.d.

<sup>1</sup> Formerly known as the California Division of Oil, Gas, and Geothermal Resources.

## **Local**

### **2000 Fresno County General Plan**

The following goal and policies of the 2000 Fresno County General Plan are relevant to the mineral resources:

**Goal OS-C:** To conserve areas identified as containing significant mineral deposits and oil and gas resources for potential future use, while promoting the reasonable, safe, and orderly operation of mining and extraction activities within areas designated for such use, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated.

**Policy OS-C.1:** The County shall not permit incompatible land uses within the impact area of existing or potential surface mining areas.

**Policy OS-C.2:** The County shall not permit land uses incompatible with mineral resource recovery within areas designated as Mineral Resource Zone 2 (MRZ-2). (See Figures 7-9, 7-10, and 7-11 in Fresno County General Plan Background Report.).

**Policy OS-C.10:** The County shall not permit land uses that threaten the future availability of mineral resource or preclude future extraction of those resources.

## **3.13.2 Significance Criteria**

The Project would result in a significant impact on mineral resources if it would:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

## **3.13.3 Direct and Indirect Effects**

### **3.13.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of the actions specifically targets potential impacts on mineral resources.

### **3.13.3.2 Methodology**

Mineral resources effects of the Project and alternatives are evaluated by identifying whether known mineral resources of statewide, regional, or local importance occur within the Project site. If any such resources are present, an assessment of the extent to which the Project would result in the loss of availability of these resources is provided.

### 3.13.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

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According to the review of available data from USGS, CGS, CalGEM, Fresno County, and Kern County, no significant mineral resources are present at or near the Project site, or at or near either of the PG&E substation sites. Therefore, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region or residents of the state, and no impact would occur. (*No Impact*)

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**Criterion b)** Whether the Project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

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As stated above, no significant mineral resources are present in or around the Project site. Further, neither the Project site nor either of the PG&E substation sites is identified as a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use. Therefore, Project activities would not result in the loss of availability of any known mineral resources or locally important mineral resources, and no impact would occur. (*No Impact*)

#### ***PG&E Infrastructure***

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The proposed activities at the PG&E Midway Substation would consist only of minor modifications (replacement and upgrades) to equipment and, in any event, no mineral resources are present there. Project impacts specific to the PG&E work, like those specific to the proposed energy storage facility, would cause no impact related to the loss of availability of either a known mineral resource that would be of value to the region and the residents of the state or a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

**Mitigation:** None required.

### 3.13.4 Cumulative Effects Analysis

Because the Project would cause no impact on the availability of known mineral resources or mineral resource recovery sites, the Project could not cause or contribute to any significant impact on such resources. As such, cumulatively, the Project would have **no impact** on mineral resources.



### 3.13.5 References

- CalGEM (California Geologic Energy Management Division), 2021. DOC CalGEM WellFinder, Interactive Map. Available: <https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-120.16379/36.17724/12>. Accessed September 22, 2021.
- CGS (California Geological Survey), 2021. CGS Information Warehouse: Mineral Land Classification, Interactive Map. Available: <https://maps.conservation.ca.gov/cgs/informationwarehouse/>. Accessed September 22, 2021.
- Fresno County, 2000. *Fresno County General Plan Policy Document*. Adopted by Fresno County Board of Supervisors, October 3, 2000, Resolution No. 00-534.
- Kern County, 2023. Screenshot of General Plan Mineral Resource Zones (in brown) relative to the Midway Substation (in yellow) from Kern County Interactive GIS Mapping. Accessed August 15, 2023.
- SMGB (California State Mining and Geology Board), n.d. *Guidelines for Classification and Designation of Mineral Lands*. California Surface Mining and Reclamation Policies and Procedures Special Publication 51. Sacramento, CA.
- USGS (U.S. Geological Survey), 2021. Mineral Resources Data System, interactive map. Available: <https://mrddata.usgs.gov/mrds/map-graded.html#search-results>. Accessed September 22, 2021.

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## 3.14 Noise and Acoustics

This section identifies and evaluates issues related to noise and acoustics. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to noise and acoustics (**Appendix A, Scoping Report**).

The analysis in this section is based in part on site-specific, Project-specific technical work prepared on the Applicant's behalf (**Appendix J, Noise and Acoustics**). The preparers of this Draft EIR identified in Chapter 5, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.14.1 Setting

#### 3.14.1.1 Study Area

The study area for evaluation of noise and vibration impacts from construction encompasses the Project site and the nearest potentially affected sensitive receptors to the proposed facilities. Applying a perimeter extension of 1 mile in all directions around the Project site conservatively captures areas of potential impact, taking into account attenuation with distance.

#### 3.14.1.2 Environmental Setting

##### ***Noise and Acoustics Background***

*Sound* is mechanical energy transmitted by pressure waves through a medium such as air. *Acoustics* is the field of science that deals with the production, propagation, reception, effects, and control of sound. *Noise* can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation (or the speed by which the wavefront of the sound wave passes through a medium), and the pressure level or energy content (*amplitude*). In particular, the *sound pressure level* has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing and 120–140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20–20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

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 deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as *A-weighting* and is expressed in units of A-weighted decibels (dBA). See **Figure 3.14-1** for examples.

### **Noise Exposure and Community Noise**

An individual's noise exposure is a measure of the noise experienced by the individual over a specified period of time. A noise level is a measure of noise for a given period of time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short-duration single-event noise sources (e.g., aircraft flyovers, horns, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring 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. Noise descriptors discussed in this analysis are summarized below:

- $L_{eq}$ : The *equivalent sound level* is used to describe noise over a specified period of time, in terms of a single numerical value. The  $L_{eq}$  is the constant sound level that 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).
- DNL: The *day-night noise level* (DNL; also referred to as  $L_{dn}$ ) is the energy average of the A-weighted sound levels occurring during a 24-hour period, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
- CNEL: Similar to the DNL, the *community noise equivalent level* (CNEL) adds a 5-dBA penalty for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to the 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.
- $L_x$ : This is the sound level that is equaled or exceeded x percent of a specified time period. The  $L_{50}$  represents the median sound level (i.e., the noise level exceeded 50 percent of the time, or 30 minutes out of an hour).
- $L_{max}$ : This is the instantaneous maximum noise level measured during the measurement period of interest.

**NOISE LEVEL**  
**COMMON OUTDOOR ACTIVITIES (dBA) COMMON INDOOR ACTIVITIES**

|                                   |     |   |
|-----------------------------------|-----|---|
|                                   | 110 | Rock band                                   |
| Jet flyover at 1,000 feet         |     |   |
|                                   | 100 |   |
| Gas lawnmower at 3 feet           |     |   |
|                                   | 90  |   |
| Diesel truck at 50 feet at 50 mph |     | Food blender at 3 feet                      |
|                                   | 80  | Garbage disposal at 3 feet                  |
| Noisy urban area, daytime         |     |   |
| Gas lawnmower at 100 feet         | 70  | Vacuum Cleaner at 10 feet                   |
| Commercial area                   |     | Normal speech at 3 feet                     |
| Heavy traffic at 300 feet         | 60  |   |
|                                   |     | Large business office                       |
| Quiet urban daytime               | 50  | Dishwasher in next room                     |
|                                   |     |   |
| Quiet urban nighttime             | 40  | Theater, large conference room (background) |
| Quiet suburban nighttime          |     |   |
|                                   | 30  | Library                                     |
| Quiet rural nighttime             |     | Bedroom at night, concert hall (background) |
|                                   | 20  |   |
|                                   |     | Broadcast/recording studio                  |
|                                   | 10  |   |
|                                   | 0   |   |

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SOURCE: Caltrans, 2013

Key Energy Storage Project

**Figure 3.14-1**  
**Typical A-Weighted Sound Levels**



### Effects of Noise on People

There is no universally accepted way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels to which one has adapted: the so-called *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. Regarding increases in A-weighted noise level, the following relationships occur (Caltrans 2013):

- 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 barely perceivable difference when the change in noise is perceived but does not cause a human response (such as annoyance or nuisance).
- 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 an adverse response (such as hearing damage or psychological effects).

These relationships occur in part because of the logarithmic nature of sound and the decibel system. For example, a ruler is a linear scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to 1. A logarithmic scale is different in that the ratio of successive intervals is not equal to 1. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a nonlinear fashion; hence, the decibel scale was developed. Because the decibel 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 dBA, the combined sound level would be 53 dBA, not 100 dBA.

### Noise Attenuation

Sound level naturally decreases with more distance from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source. In many cases, noise attenuation from a point source increases by 1.5 dBA from 6.0 dBA for a total attenuation rate of 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as *excess ground attenuation*. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground

attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

Widely distributed noises such as a street with moving vehicles (a *line* source) typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 to 4.5 dBA for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects.

### **Vibration**

*Vibration* is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. The *peak particle velocity* (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. Although PPV is appropriate for evaluating building damage, it is less suitable for evaluating human response. Human response is better related to the average vibration amplitude. The *root mean square* (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration, as numbers can differ over several orders of magnitude. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration (FTA 2018).

### **Sensitive Receptors**

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate also are sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

As shown in **Figure 3.14-2**, the closest residence is located on West Jayne Avenue, approximately 3,300 feet west of the Project site. Other sensitive receptors are located 1.5 miles west of the Project site on South Glenn Avenue (Almond Tree Oasis RV Park), 2.8 miles east of the Project site along West Jayne Avenue, and 0.95 mile from the transmission lines. The nearest residences to the Midway Substation are located approximately 0.25 mile away.



Data displayed on map is confidential and not for public distribution

Key Energy Storage Project  
**Figure 3.14-2**  
 Noise Measurement Locations

SOURCE: Rincon, 2022



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### Noise Sources and Ambient Noise Levels

The Project site is located in an area of relatively flat agricultural land with scattered rural residences. The main contributor to the existing noise environment in the vicinity of the Project site is traffic along Interstate 5. Additional noise sources include local roadways, natural noise such as wind and birds, and human activity–related noise sources including rural agricultural noise from irrigation pumps and farming equipment, existing solar facilities, and existing substations. There are no public airports within 2 miles of the Project site.

To provide the basis of the general noise environment on and around the Project site, short-term noise measurements were conducted on Thursday, March 31, 2022, to document existing ambient noise levels during typical daytime and nighttime hours (Appendix J). The noise monitoring locations are illustrated in Figure 3.14-2. As shown in **Table 3.14-1**, the results of the 15-minute noise measurements indicate that current daytime ambient noise levels on and immediately adjacent to the Project site range from approximately 73 dBA  $L_{eq}$  to 75 dBA  $L_{eq}$ .

**TABLE 3.14-1  
EXISTING NOISE LEVELS**

| Measurement Location <sup>a</sup> | Measurement Location  | Sample Times     | Approximate Distance to Primary Noise Source | $L_{eq}$ (dBA) | $L_{min}$ (dBA) | $L_{max}$ (dBA) |
|-----------------------------------|---|------------------|--|----------------|-----------------|-----------------|
| NM1                               | North of Project site, along West Jayne Avenue, between the Project site and the PG&E Gates Substation  | 11:11–11:26 a.m. | 0.5 mile from substation                     | 73             | 41              | 89              |
| NM2                               | Northwest of the Project site, at the intersection of West Jayne Avenue and an agricultural access road | 12:10–12:25 p.m. | 10–15 feet from agricultural areas           | 75             | 56              | 88              |

NOTES:

NOTES: dBA = A-weighted decibels;  $L_{eq}$  = equivalent sound level;  $L_{min}$  = instantaneous minimum noise level;  $L_{max}$  = instantaneous maximum noise level; PG&E = Pacific Gas and Electric Company

a Monitoring locations correspond to those illustrated in Figure 3.14-2.

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Appendix J)

Additional minor modifications to substation equipment at PG&E’s Midway Substation in Buttonwillow, Kern County, would be needed to support the Project. The main contributor to the existing noise environment in the vicinity of the substation site is traffic along State Route 58 and the San Joaquin Valley Railroad. Additional noise sources include local roadways, natural noise such as wind and birds, and human activity–related noise sources including rural agricultural noise from irrigation pumps and farming equipment, and existing substations. There are no public airports within 2 miles of the substation site.

#### 3.14.1.3 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise

involves implementation of general plan policies and noise ordinance standards. Local general plans tend to identify general principles intended to guide and influence development plans; local noise ordinances and codes establish standards and procedures for addressing specific noise sources and activities.

**Federal**

**Federal Transit Administration and Federal Railroad Administration Standards**

Although the Federal Transit Administration (FTA) standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA (2018) *Transit Noise and Vibration Impact Assessment Manual* are routinely used for projects under review by local jurisdictions that have not adopted their own vibration impact standards. The FTA and Federal Railroad Administration have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other jurisdictions to other types of projects. The FTA’s threshold of architectural damage for conventional sensitive structures from groundborne vibration is measured as 0.2 inch/second PPV or 94 VdB (decibel units of 1 micromicroinch per second). The FTA measure of human annoyance at residential uses is 80 VdB for “Frequent Events,” or fewer than 70 vibration events of the same kind per day.

**Occupational Safety and Health Act**

Under the Occupational Safety and Health Act of 1970 (U.S. Code Title 29, Section 651 et seq.), the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (Code of Federal Regulations Title 29, Section 1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list limits on noise exposure levels as a function of the amount of time during which the worker is exposed, as shown in **Table 3.14-2**. The regulations further specify requirements for a hearing conservation program (Section 1910.95[c]), a monitoring program (Section 1910.95[d]), an audiometric testing program (Section 1910.95[g]), and hearing protection (Section 1910.95[i]). There are no federal laws governing community noise.

**TABLE 3.14-2  
 U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION—PERMISSIBLE  
 NOISE EXPOSURE STANDARDS**

| Duration of Noise (hours/day) | A-Weighted Noise Level (dBA) |
|-------------------------------|------------------------------|
| 8                             | 90                           |
| 6                             | 92                           |
| 4                             | 95                           |
| 3                             | 97                           |
| 2                             | 100                          |
| 1.5                           | 102                          |
| 1                             | 105                          |
| 0.5                           | 110                          |
| 0.25 or less                  | 115                          |

SOURCES: USEPA 1974; Code of Federal Regulations Title 29, Section 1910.95, Table G-16.

Although no federal noise regulations exist, the U.S. Environmental Protection Agency (USEPA) has published noise guidelines (USEPA 1974). The USEPA guidelines recommend a DNL of 55 dBA to protect the public from the effect of broadband environmental noise outdoors in residential areas and farms, and other outdoor areas where people spend widely varying amounts of time, and other places in which quiet is a basis for use (USEPA 1974).

## **State**

### **California Planning and Zoning Law**

Government Code Section 65302 encourages counties and cities to implement a noise element as part of the general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure.

### **Occupational Safety and Health Standards**

The California Occupational Safety and Health Administration has published Occupational Noise Exposure Regulations (California Code of Regulations Title 9, Sections 5095–5099) that set employee noise exposure limits. These standards are equivalent to the federal OSHA standards described above.

### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E's work (as regulated by the CPUC) would not be subject to the County's or Kern County's noise-related requirements. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters," potentially including the impact of noise on sensitive receptors.

## **Local**

### **Fresno County General Plan Health and Safety Element**

The Fresno County General Plan Health and Safety Element establishes countywide land use compatibility guidelines that are applicable to the Project. For example, the maximum allowable noise exposure level for residential land use is 60 dBA CNEL (Fresno County 2000). The following Fresno County General Plan policies also are relevant to the Project:

***Policy HS-G.1:*** The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.

***Policy HS-G.4:*** So that noise mitigation may be considered in the design of new projects, the County shall require an acoustical analysis as part of the environmental review process where:

- a. Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels that are “generally unacceptable” or higher according to the Chart HS-1: “Land Use Compatibility for Community Noise Environments.”
- b. Proposed projects are likely to produce noise levels exceeding the levels shown in the County’s Noise Control Ordinance at existing or planned noise-sensitive uses.

**Policy HS-G.5:** Where noise mitigation measures are required to achieve acceptable levels according to land use compatibility or the Noise Control Ordinance, the County shall place emphasis of such measures upon site planning and project design. These measures may include, but are not limited to, building orientation, setbacks, earthen berms, and building construction practices. The County shall consider the use of noise barriers, such as soundwalls, as a means of achieving the noise standards after other design-related noise mitigation measures have been evaluated or integrated into the project.

**Policy HS-G.6:** The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County’s Noise Control Ordinance.

**Policy HS-G.8:** The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to Chart HS-1, “Land Use Compatibility for Community Noise Environments.” [Chart HS-1 is presented as **Figure 3.14-3.**]

**Fresno County Noise Ordinance**

The Fresno County Noise Ordinance (Chapter 8.40 of the Fresno County Development Code) applies to noise sources that can be regulated by Fresno County, such as equipment related to commercial and industrial land uses. **Table 3.14-3** summarizes the County’s exterior noise standards that would be applicable to the Project. As indicated in the table, it would be unlawful for Project-related on-site operation and/or maintenance noise levels to exceed an L<sub>50</sub> of 50 dBA during daytime hours at the nearby residences.

**TABLE 3.14-3  
 FRESNO COUNTY EXTERIOR NOISE LEVEL STANDARDS**

| Cumulative minutes/hour (L <sub>x</sub> ) | Daytime<br>7 a.m. to 10 p.m. | Nighttime<br>10 p.m. to 7 a.m. |
|---|------------------------------|--------------------------------|
| 30 (L <sub>50</sub> )                     | 50                           | 45                             |
| 15 (L <sub>25</sub> )                     | 55                           | 50                             |
| 5 (L <sub>8.3</sub> )                     | 60                           | 55                             |
| 1 (L <sub>1.7</sub> )                     | 65                           | 60                             |
| 0 (L <sub>max</sub> )                     | 70                           | 65                             |

NOTE:





L<sub>x</sub> = sound level that is equaled or exceeded x percent of a specified time period; L<sub>max</sub> = instantaneous maximum noise level

In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal the ambient noise level.

SOURCE: Fresno County 1978.

| Land Use Category  | Community Noise Exposure (Outdoor)<br>Ldn or CNEL, dB |    |    |    |    |    |    |    |
|--|---|----|----|----|----|----|----|----|
|  | 50  | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| Residential: Low-Density Single-Family, Duplex, Mobile Homes |   |    |    |    |    |    |    |    |
| Residential: Multiple Family                                 |   |    |    |    |    |    |    |    |
| Transient Lodging: Motels, Hotels                            |   |    |    |    |    |    |    |    |
| Schools, Libraries, Churches, Hospitals, Nursing Homes       |   |    |    |    |    |    |    |    |
| Auditoriums, Concert Halls, Amphitheaters                    |   |    |    |    |    |    |    |    |
| Sports Arena, Outdoor Spectator Sports                       |   |    |    |    |    |    |    |    |
| Playgrounds, Neighborhood Parks                              |   |    |    |    |    |    |    |    |
| Golf Courses, Riding Stables, Water Recreation, Cemeteries   |   |    |    |    |    |    |    |    |
| Office Buildings, Business Commercial and Professional       |   |    |    |    |    |    |    |    |
| Industrial, Manufacturing, Utilities, Agriculture            |   |    |    |    |    |    |    |    |

|   |  |
|---|--|
|  | <p><b>Normally Acceptable</b></p> <p>Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.</p>   |
|  | <p><b>Conditionally Acceptable</b></p> <p>New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.</p> |
|  | <p><b>Generally Unacceptable</b></p> <p>New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.</p>  |
|  | <p><b>Land Use Discouraged</b></p> <p>New construction or development should generally not be undertaken.</p>  |

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SOURCE: Fresno County 2000 General Plan

Key Energy Storage Project

**Figure 3.14-3**  
Community Noise Environment

As indicated in Section 8.40.060 of the Fresno County Noise Ordinance, noise sources associated with construction activities are exempt from the standards provided they take place after 6:00 a.m. and before 9:00 p.m. on Monday through Friday, or after 7:00 a.m. and before 5:00 p.m. on weekends. Chapter 8.40.060(g) of the Fresno County Noise Ordinance further provides that noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities are also exempt. Section 8.040.110 provides a mechanism for the granting of variances from noise ordinance restrictions that must be approved by the County Board of Supervisors.

With respect to operational noise from electrical substations, Section 8.40.90—Electrical Substations provides that noise sources associated with the operation of electrical substations shall not exceed 50 dBA when measured as provided in Section 8.40.030 (Noise Measurement Criteria). These criteria require that measurements shall be made with a calibrated sound level meter using the “A” weighting using a slow meter response. The exterior noise levels shall be measured within 50 feet of the affected noise-sensitive receptor with the microphone positioned 3–5 feet above the ground (Fresno County 1978).

### 3.14.2 Significance Criteria

The Project would result in a significant impact to noise if it would:

- a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b) Generate excessive groundborne vibration or groundborne noise levels; or
- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

### 3.14.3 Direct and Indirect Effects

#### 3.14.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts related to noise or vibration.

#### 3.14.3.2 Methodology

This analysis evaluates potential noise and vibration impacts of the Project and alternatives based on review of sensitive receptors, ambient noise levels, and projected noise levels that would be associated with construction, operation, maintenance, and decommissioning of the Project and alternatives. Impact discussions are based in part on the modeled noise and vibration levels of the

Project as presented in the Noise and Vibration Study (Appendix J) and comparison relative to established standards.

### ***Short-Term Construction and Decommissioning Impacts***

Short-term noise level increases from construction and decommissioning activities would cause significant impacts if the activities would conflict with local policies or standards. Project-related construction activities taking place between 6:00 a.m. and 9:00 p.m. Monday through Friday and between 7:00 a.m. and 5:00 p.m. on weekends would be exempt from standards in the Fresno County Noise Ordinance. During nighttime hours, construction would be required to adhere to the Fresno County exterior noise standards: 45 dBA  $L_{eq}$  during the nighttime. Decommissioning is conservatively assumed to be similar in extent of noise-producing activities as construction activities, and consequently, all construction-related impacts would also apply to decommissioning.

### ***Long-Term Operation and Maintenance Impacts***

Long-term operation and maintenance noise impacts would be considered significant if Project-related noise would exceed the Fresno County exterior noise standards of 45 dBA  $L_{50}$  during nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) or 50 dBA  $L_{50}$  during daytime hours (i.e., 7:00 a.m. to 10:00 p.m.). For most common noise sources,  $L_{50}$  can be interpreted as close to the  $L_{eq}$  metric. Therefore, if a project would generate noise levels in excess of 50 dBA  $L_{eq}$  during the daytime or 45 dBA  $L_{eq}$  during the nighttime, such noise generation would constitute a significant noise impact.

The Fresno County General Plan CNEL-based community noise exposure level considers the contributions of daytime and nighttime noise levels. The maximum allowable noise exposure level for residential land uses is 60 dBA CNEL.

As described in Section 3.14.1, *Setting*, a change in noise of at least 5 dBA is required before a readily perceptible human response would be expected. In addition, in the context of an energy project, the California Energy Commission (CEC) determined that less-than-significant noise impacts would result if daytime noise levels would increase by no more than 10 dBA and nighttime noise levels would increase by no more than 5 dBA over ambient conditions (CEC 2010). These increases represent a perceived doubling of loudness and a readily perceptible increase in noise, respectively (Caltrans 2013). Therefore, absent an adopted countywide threshold of significance that addresses the increase over existing ambient conditions, the County has determined that increases in ambient noise levels associated with long-term operation and maintenance activities for the Project would result in a significant impact if ambient noise levels at sensitive receptor locations would be increased by more than 10 dBA during daytime hours or by more than 5 dBA at night.

### ***Vibration Impacts***

A numerical threshold to identify the point at which a vibration impact occurs has not been identified by County standards or codes. However, the FTA impact assessment procedures and criteria are routinely used for projects under review by local jurisdictions that have not adopted

their own vibration impact standards. Consistent with professional practice, this analysis assumes that the Project would result in a significant construction vibration impact if buildings or sensitive individuals would be exposed to vibration levels equivalent to or higher than the FTA PPV vibration threshold level of 0.2 inch per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures from groundborne vibration is 0.2 in/sec PPV. The FTA measure of human annoyance at residential uses is 72 VdB for “Frequent Events,” or more than 70 vibration events of the same source per day (FTA 2018).

### 3.14.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project 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.

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**Impact 3.14-1: The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (*Less than Significant with Mitigation Incorporated*)**

#### **Demolition and Construction, Decommissioning, and Site Restoration**

The Fresno County Noise Ordinance states that 50 dBA is the standard for daytime (7 a.m. to 10 p.m.) and 45 dBA is the standard for nighttime (10 p.m. to 7 a.m.). Therefore, if a proposed project would generate noise levels from non-construction noise sources in excess of 50 dBA  $L_{eq}$  during the daytime or 45  $L_{eq}$  during the nighttime, such noise generation would constitute a significant noise impact. As discussed above, noise from construction or decommissioning activities would be exempt from the Fresno County General Plan noise policies and the Fresno County Noise Ordinance standards if the activities would occur between 6:00 a.m. and 9:00 p.m. on weekdays, or between 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays.

For construction noise, peak unmitigated levels have the potential to exceed the Fresno County exterior noise level standards. However, the construction activities most likely to cause these peak noise levels would occur during typical, daytime hours when construction noise sources are exempt under Fresno County’s Noise Ordinance. Project-related construction activities that may occur outside these exempt hours include activity for material and equipment delivery and/or where the schedule has been delayed due to weather or other events.

#### **Construction, Decommissioning, and Site Restoration Noise**

Decommissioning and site restoration are conservatively assumed to be similar in extent of noise-producing activities as construction activities; consequently, all construction-related impacts would also apply to decommissioning and site restoration at the end of the assumed Project life.

Project construction would consist of four phases, with later phases scheduled for implementation based on the region’s increasing demand for energy storage. Phase 1 construction would begin in 2024 and Phase 2 would begin in 2025. Phases 3 and 4 would be constructed between 1 and 3



years after the previous phase, based on the region's increasing demand for energy storage. Each construction phase would last between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately 76 months and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated to take a total of 68 months. The first phase would consist of site preparation and grading, energy storage enclosure and substation installation, and gen-tie line construction and stringing. The latter phases would consist only of site preparation and grading, and energy storage enclosure installation. Construction would occur primarily during the County's exempt hours of construction activities. (The potential impacts of the occasional construction activities that may occur outside of these hours are analyzed below.) Most deliveries also are expected to occur during the exempt hours of construction.

Construction equipment would include standard equipment such as scrapers, graders, water trucks, dozers, and compaction equipment. There would also be potential operation of pile drivers for installation of medium-voltage stations. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. At locations where gen-tie poles would be installed, minor cuts may be required where the foundation would be installed.

Two construction scenarios were modeled to assess construction-related noise impacts (Appendix J). The first scenario includes simultaneous operation of an excavator, a grader, and a dozer working during grading or site preparation to excavate and move soil in close proximity to one another. In addition, medium-voltage stations may sit on concrete foundations or driven piles, pending final design. Therefore, a second scenario of an excavator, dozer, grader, and impact pile driver was analyzed. It was assumed that diesel engines would power all construction equipment.

The nearest noise-sensitive uses near the Project site are agricultural residences 3,300 feet west of the Project site along West Jayne Avenue. Based on the modeling, at a distance of 3,300 feet, an excavator, a grader, and a dozer would generate an unshielded noise level of 47 dBA  $L_{eq}$  (8-hour) at the nearest sensitive receptor to the Project site. With the addition of impact pile driving (if medium-voltage stations would sit on driven piles), construction noise would generate a noise level of 58 dBA  $L_{eq}$  (8-hour) at 3,300 feet. These noise levels from peak construction activity would be less than the existing monitored daytime noise levels of 73–75 dBA  $L_{eq}$  along West Jayne Avenue where the nearest receptors are located and, hence, would not result in a noticeable increase during daytime hours.

The Fresno County Noise Ordinance exempts construction activity noise from standard exterior noise exposure limits, if conducted between 6:00 a.m. and 9:00 p.m. on weekdays, or between 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays. Most Project-related construction activity is expected to occur within the window of time covered by the noise ordinance exemption. Construction workers would work 8- to 10-hour days, Monday through Friday. A less-than-significant impact would result from construction, decommissioning, and site restoration activities undertaken during the County's exempt times.

Although weekend and overtime construction is not anticipated, it may occasionally be needed to meet Project milestones. If nighttime work hours or work on weekends is necessary, such work could be scheduled consistent with Fresno County General Plan and County code provisions. Construction requirements would require some nighttime activity for material and equipment delivery and/or where the schedule has been delayed due to weather or other events. The nighttime  $L_{eq}$  limit is 45 dBA based on the Fresno County exterior noise level standard and may be exceeded at the nearest receptors on some occasions if nighttime work is required and near the northwestern Project boundary. If construction of the Project were to occur during nighttime hours, it could generate noise levels that exceed the County's 45 dBA nighttime standard. While Section 8.040.110 of the County Code provides a mechanism for the granting of variances from noise ordinance restrictions that must be approved by the County Board of Supervisors, provision of such a variance does not necessarily mean that there would be no nighttime noise impact. Therefore, mitigation measures are identified to address this potential significant noise impact.

Because of the infrequent nature of loud construction activities at the site and the limited hours of construction, with implementation of identified noise mitigation measures, the impact related to the temporary increase in noise due to construction would be less than significant with mitigation.

**Mitigation Measure 3.14-1: Nighttime Noise Reduction for Construction Activities.**

Prior to issuance of construction permits for the project, the Project Applicant shall submit to the County for approval a construction noise reduction plan to be implemented by all contractors as a condition of contract. Contents of the plan should include at a minimum:

- Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.
- Limit use of pile drivers and major excavating and earth-moving machinery to daytime hours.
- Equip any internal combustion engine used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.
- For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.
- Limit possible evening and nighttime shift work to low-noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment such that noise levels at 50 feet are less than 80 dBA.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measure 3.14-1 would reduce nighttime construction noise impacts below established thresholds by limiting the types of activities that might occur during nighttime hours to those least likely to generate substantial noise.

**Construction Traffic Noise**

West Jayne Avenue is the major road in the Project vicinity. Traffic noise modeling estimates that an increase of 0.8 dBA would occur with peak Project construction traffic, adding a maximum average of 380 trips per day. This increase of less than 3 dBA would not exceed the significance

threshold and is below an increase considered to represent a readily perceptible increase in noise (Caltrans 2013). In addition, construction traffic is anticipated to occur only during the day, which would cause the least disruption to sleep or relaxation patterns. Because of the temporary nature of the traffic noise increase and the construction exemption in the County Noise Ordinance, impacts related to construction traffic noise would be less than significant.

### **Operation and Maintenance**

Long-term operational point sources of noise would include battery or electrolyzer tank storage containers, transformers, inverters, and the substation. Operational noise levels were calculated using SoundPLAN noise modeling software, Version 8.2 (see Appendix J for details).

Noise sources, receivers, structures, and barriers were input using three-dimensional coordinates. In all cases, receivers were modeled at the average height of the human ear: 5 feet above ground elevation. The assessment methodology assumed that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts because only some receivers would be downwind at any one time.

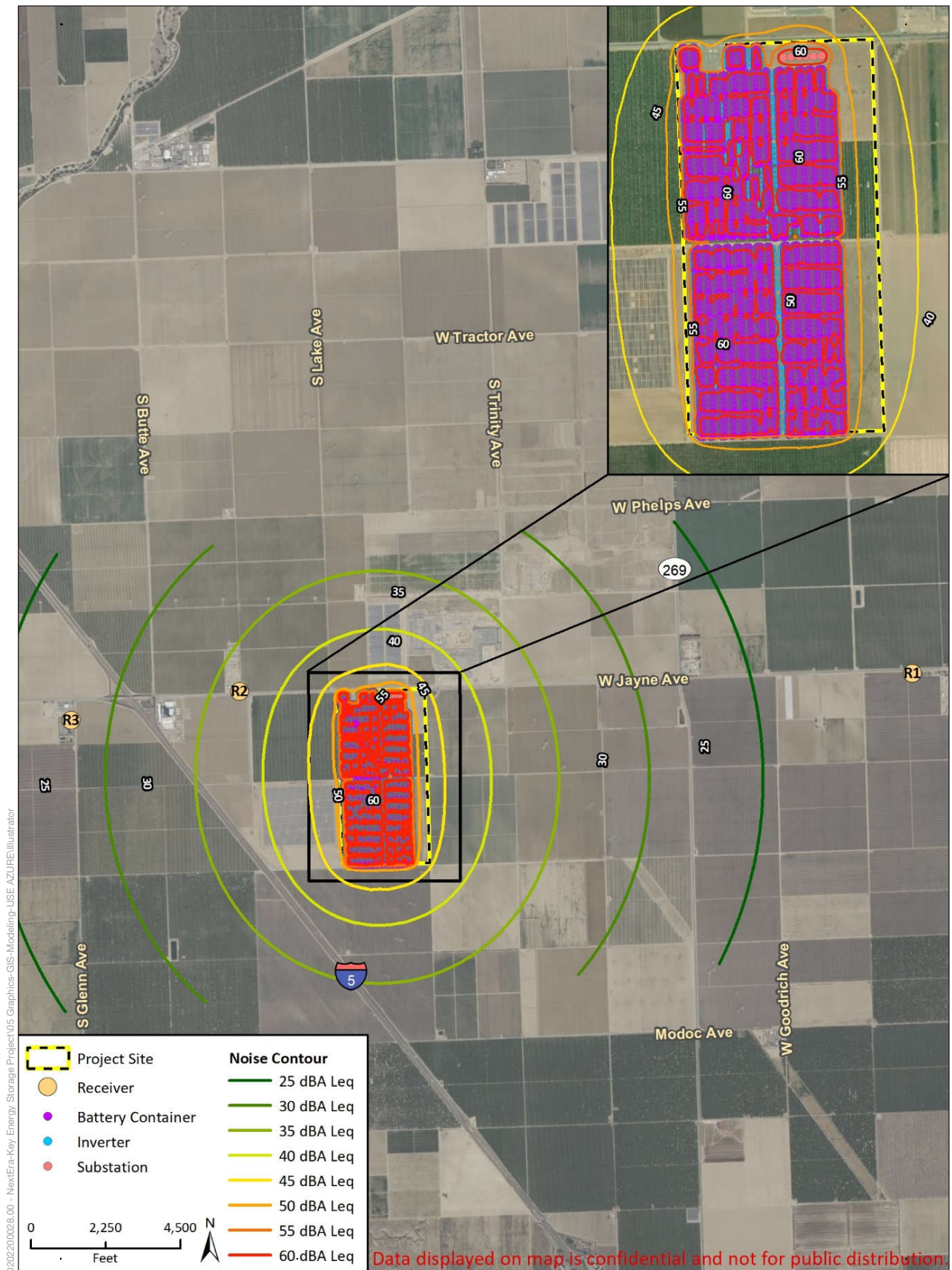
The Project's storage containers and inverters were assumed to cover the entire site except the easement on the eastern edge of the Project site, to provide a conservative analysis given the multiple potential site layouts.

Each battery or electrolyzer tank container would generate noise from two "silenced" heating, ventilation, and air conditioning units. The storage containers were modeled as point sources based on manufacturer data, without the proposed noise silencing on the return air and supply air ducts of 62 dBA  $L_{eq}$  at 5 feet. To be conservative, the unsilenced noise level was modeled.

Each set of four storage containers would be served by a single inverter, which, based on the measured noise levels of similar equipment, generate the highest measured noise levels as 80.5 dBA at the front and at the back. The inverter point sources were conservatively modeled to emanate 80.5 dBA in all directions.

Each of the six Project substation transformers is assumed to yield a sound power level of 95.0 dBA. The container equipment, inverters, and substation were conservatively assumed to be in continuous operation.

**Table 3.14-4** shows the projected exterior sound levels resulting from full operation of the Project at each of the closest receptors. **Figure 3.14-4** shows ground-floor noise contours. The table shows that the highest total sound levels, inclusive of ambient and Project operational levels at receptors at R1, R2, and R3, would comply with the Fresno County Noise Control Ordinance's daytime and nighttime threshold limits of 50 dBA and 45 dBA, respectively. As a result, operational noise impacts would be less than significant.



SOURCE: Rincon, 2022

Key Energy Storage Project

**Figure 3.14-4**  
Operational Noise Contours

**TABLE 3.14-4  
SUMMARY OF UNMITIGATED DAYTIME OPERATIONAL NOISE**

| Receiver | Description                                     | Modeled Noise Level (dBA L <sub>eq</sub> ) | Exceed Daytime Standard? <sup>a</sup> | Exceed Nighttime Standard? <sup>1</sup> |
|----------|---|--|---------------------------------------|---|
| R1       | Residences on West Jayne Avenue                 | 17   | No                                    | No                                      |
| R2       | Agricultural housing at 19536 West Jayne Avenue | 37   | No                                    | No                                      |
| R3       | Almond Tree Oasis RV Park                       | 28   | No                                    | No                                      |

NOTES:

dBA = A-weighted decibels; L<sub>eq</sub> = equivalent sound level

a. The applicable daytime threshold (7:00 a.m. to 10:00 p.m.) is 50 dBA L<sub>eq</sub> at residential properties and the applicable nighttime threshold (10:00 p.m. to 7:00 a.m.) is 45 dBA L<sub>eq</sub> at residential properties. The Fresno County Code does not define noise limits at commercial or industrial uses.

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Appendix J)

**On-site Vehicles**

During operation and maintenance of the Project substation, staff would visit the substation periodically to conduct switching and other operational activities. Maintenance trucks would be used to perform routine maintenance, such as equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance. Routine operations would require weekly visits to the facility by one or two workers in a light utility truck. Typically, one major maintenance inspection would take place annually. This number of additional vehicle trips on nearby roadways would result in a negligible increase in roadway traffic noise. A less-than-significant impact would result.

**Corona Noise**

With respect to operational noise, when a transmission line is in operation, an electric field is generated in the air surrounding the conductors, forming a corona. Audible noise generated by corona discharge is characterized as a hissing or crackling sound that may be accompanied by a hum. Slight irregularities or water droplets on the conductor and/or insulator surface accentuate the electric field's strength near the conductor surface. Therefore, audible noise from transmission lines is generally a foul-weather phenomenon that results from wetting of the conductor.

The audible noise associated with transmission lines decreases as the line voltage decreases; the audible noise associated with a 230-kilovolt (kV) line is lower than 40 dBA. Noise levels from the Project's transmission lines at the nearest sensitive residential receptor located 0.95 mile away would be less than 30 dBA. This noise level would comply with the County's nighttime threshold of 45 dBA and would increase the existing ambient noise level by less than 1 dB during moments of corona noise, which is generally associated with inclement weather when windows would likely be closed. Therefore, operational corona noise associated with PG&E infrastructure would not represent a substantial increase in ambient noise levels. The impact would be less than significant with no mitigation required.

**Criterion b)** Whether the Project would generate excessive groundborne vibration or groundborne noise levels.

**Impact 3.14-2: The Project would not expose people and/or structures to excessive vibration levels. (*Less-than-Significant Impact*)**

**Demolition and Construction, Decommissioning, and Site Restoration**

Temporary sources of groundborne vibration and noise during land grading, trenching, and other initial demolition and construction activities for the Project would be produced by the operation of heavy construction equipment. The construction equipment most likely to create vibration includes large and small bulldozers, pile drivers, loaded trucks, and jackhammers.

The use of heavy equipment (e.g., a large bulldozer) generates vibration levels of 0.089 in/sec PPV at a distance of 25 feet and the typical level for pile driving is 0.644 in/sec PPV at 25 feet. Based on calculations of vibration propagation, construction vibration levels at the nearest receptor are predicted to be reduced to below 0.0005 in/sec PPV (40 VdB). **Table 3.14-5** summarizes the predicted vibration levels at each receptor based on the highest vibration-generating equipment.

As shown in Table 3.14-5, Project construction would generate vibration levels below the human perception threshold of approximately 65 VdB. As such, construction-related vibration associated with the Project would result in a less-than-significant impact.

Project construction would not have the potential to generate significant short-term groundborne vibration or noise at sensitive receptors because of attenuation with distance. Decommissioning activities would use equipment similar to that used for construction and would similarly not affect nearby sensitive receptors. Therefore, groundborne vibration impacts of Project decommissioning and site restoration would be less than significant.

**TABLE 3.14-5  
 PROJECTED CONSTRUCTION VIBRATION LEVELS**

| Construction Operation | Vibration Metric | Reference Vibration Level | R-1     | R-2     | R-3     |
|------------------------|------------------|---------------------------|---------|---------|---------|
| Pile Driving           | in/sec (PPV)     | 0.644                     | 0.00012 | 0.00043 | 0.00005 |
| Pile Driving           | VdB              | 104                       | 29      | 40      | 21      |

NOTES: in/sec = inches per second; PPV = peak particle velocity; VdB = vibration decibels

SOURCE: Data compiled by Environmental Science Associates in 2023

**Operation and Maintenance**

The Project does not propose the use of large, rotating equipment or other types of equipment or activities during the Project’s operation and maintenance phase that would introduce any new sources of perceivable groundborne vibration. In addition, operation and maintenance would not require the use of heavy equipment. Therefore, a less-than-significant impact would result.

**Mitigation:** None required.

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**Criterion c)** For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, whether the Project would expose people residing or working in the project area to excessive noise levels.

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The Project would not include development of land uses near an airport influence area. There are no public airports within 2 miles of the Project site (Fresno COG 2018). A review of aerial photography indicates that there are no private airstrips within 2 miles of the Project site. Therefore, no impact would occur with respect to exposure of people residing or working within the vicinity of a private airstrip or a public airport or public use airport in the Project area.  
(No Impact)

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to temporary or permanent increases in ambient noise levels in the vicinity of the Project site and the exposure of people and/or structures to vibration levels. It is assumed that construction activities for new direct tie lines would occur during daytime hours. Because such construction activities would occur farther away from receptors than other Project construction activities, they also would generate noise at levels less than the existing monitored daytime noise levels at the locations of the nearest receptors. Also like the Project as a whole, the PG&E work at the Gates Substation would cause a less-than-significant impact with respect to exposure of people to excessive noise levels. Conservatively assuming that PG&E work could require impact pile driving, resultant vibration levels from the nearest structure at a distance of 3,300 feet would be reduced to 0.0001 in/sec PPV and 29 VdB. Therefore, the PG&E work would not cause a significant impact due to substantial structural effects from vibration and an annoyance impact, respectively.

With respect to the proposed improvements to the Midway Substation, the nearest residences are located approximately 0.25 mile to the west along Meadow Street. There are several single-family residences, many of which are as close as 180 feet from State Route 58. At this distance, highway traffic would contribute noise that would mask the noise level increase at these receptors from construction work required to replace an existing switch and three supporting structures and upgrade the existing bus structure. Because the impact of minor modifications to substation equipment would be minor and the modifications would occur inside the fence line,

implementation of the Project would result in a less-than-significant impact related to incremental noise.

**Mitigation:** None required.

### 3.14.3.4 Direct and Indirect Effects of Alternatives

## 3.14.4 Cumulative Effects Analysis

As discussed above, no impact would occur with respect to exposure of people residing or working within the vicinity of a private airstrip or a public airport or public use airport in the Project area. Therefore, the Project would cause no impacts that could cause or contribute to any potential significant cumulative impact regarding this consideration. The potential for the Project or an alternative to cause or contribute to a potential significant cumulative impact with respect to the remaining noise and vibration considerations is evaluated below.

### **Impact 3.14-3: The Project would not cause a cumulatively considerable contribution to any significant noise or vibration impact. (*Less-than-Significant Impact*)**

The geographic scope considered for this evaluation of potential cumulative impacts related to noise and vibration is the area within 0.5 mile of the Project site because sounds and vibration naturally attenuate with distance and topography. The temporal scope for potential cumulative impacts begins with the initiation of on-site construction activities and ends with the conclusion of on-site work for decommissioning and reclamation. Among the projects identified in *Section 3.1, Introduction to Environmental Analysis*, and as shown in **Figure 3.1-1**, there are no projects that are within this geographic scope. At the closest, the PG&E projects north of the Gates Substation would be 0.6 mile from the Project site. Because of the distance between these projects and the Project site, there is no possibility that noise from construction, operation, or decommissioning of the Project could combine with noise from any other projects to cause or contribute to a significant cumulative effect.

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## 3.15 Population and Housing

This section identifies and evaluates issues related to population and housing. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to population and housing (**Appendix A, Scoping Report**).

### 3.15.1 Setting

#### 3.15.1.1 Study Area

The study area for the analysis of potential impacts related to population and housing is conservatively defined to include the Project site and all communities within 75 miles of the Project site (within and beyond Fresno County). Since the mean commute time in Fresno County is 23.3 minutes (U.S. Census Bureau 2022), 75 miles represents the maximum approximate distance that Project workers would reasonably be expected to travel to work at the Project site.

#### 3.15.1.2 Environmental Setting

**Table 3.15-1** identifies population characteristics for Fresno County and the cities in the study area. Population estimates and projections are not available for unincorporated communities separate from the Countywide population estimates and projections. As demonstrated in Table 3.15-1, most of the cities in the study area experienced moderate amounts of growth between 2000 and 2022. In 2022, Fresno County had an estimated population of 1,011,273, an increase of approximately 9 percent from the 2010 population of 930,450. The city of Fresno had an estimated population of 543,660 in 2022, an increase of approximately 10 percent from 2010. In Kern County, where PG&E's modifications to the Midway Substation would occur, the estimated population in 2022 was 909,813 - an increase of approximately 9 percent from the 2010 population of 837,074.

From 2010 to 2050, the San Joaquin Valley is expected to have an annual growth rate of 1.33 percent. Fresno County is expected to grow at a slightly slower rate (1.2 percent annually), while Kern County (1.5 percent), Kings County (1.4 percent), Madera County (1.6 percent), and Merced County (1.5 percent) are anticipated to grow at slightly faster rates than the region as a whole (Fresno COG 2012).

### **Housing**

**Table 3.15-2** outlines housing data for Fresno County and the cities in the study area in 2022. Vacancy rates for these jurisdictions ranged from 2.0 percent (city of Mendota) to 5.6 percent (city of Merced). As of January 1, 2022, Fresno County had an estimated 343,513 housing units with a vacancy rate of 5.6 percent; the city of Fresno had an estimated 186,993 housing units with a vacancy rate of 4.5 percent; and the city of Mendota had an estimated 2,889 housing units with a vacancy rate of 2.0 percent.

**TABLE 3.15-1  
 POPULATION IN THE STUDY AREA**

| <b>Area</b>         | <b>2000<sup>a</sup></b> | <b>2005<sup>a</sup></b> | <b>2010<sup>a</sup></b> | <b>2015<sup>b</sup></b> | <b>2022<sup>c</sup></b> |
|---------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fresno County       | 799,407                 | 866,058                 | 930,450                 | 975,108                 | 1,011,273               |
| City of Fresno      | 427,719                 | 457,786                 | 494,665                 | 522,016                 | 543,660                 |
| City of Mendota     | 7,890                   | 9,179                   | 11,014                  | 11,235                  | 12,440                  |
| City of Clovis      | 68,516                  | 84,552                  | 95,631                  | 105,038                 | 123,665                 |
| City of Reedley     | 20,756                  | 21,447                  | 24,194                  | 25,542                  | 24,982                  |
| City of Sanger      | 18,931                  | 21,297                  | 24,270                  | 25,246                  | 26,304                  |
| City of Selma       | 19,444                  | 22,160                  | 23,219                  | 23,898                  | 24,522                  |
| City of Kerman      | 8,548                   | 10,985                  | 13,544                  | 14,584                  | 16,639                  |
| City of San Joaquin | 3,270                   | 3,569                   | 4,001                   | 4,063                   | 3,639                   |
| City of Firebaugh   | 5,743                   | 6,953                   | 7,549                   | 7,827                   | 8,439                   |
| City of Madera      | 43,205                  | 51,735                  | 61,416                  | 63,147                  | 65,843                  |
| City of Chowchilla  | 14,416                  | 16,052                  | 18,720                  | 18,626                  | 18,851                  |
| City of Merced      | 63,893                  | 72,402                  | 78,958                  | 82,379                  | 89,058                  |
| City of Dinuba      | 16,844                  | 18,989                  | 21,453                  | 24,135                  | 25,127                  |
| City of Visalia     | 91,891                  | 106,054                 | 124,442                 | 130,627                 | 142,091                 |
| City of Tulare      | 43,994                  | 48,974                  | 59,278                  | 62,407                  | 69,462                  |
| City of Hanford     | 41,687                  | 48,016                  | 53,967                  | 55,844                  | 58,299                  |
| City of Coalinga    | 15,798                  | 16,566                  | 18,087                  | 16,467                  | 17,277                  |
| City of Avenal      | 14,674                  | 15,898                  | 15,505                  | 12,950                  | 13,186                  |
| City of Huron       | 6,310                   | 6,343                   | 6,754                   | 6,887                   | 6,170                   |
| Kern County         | 661,653                 | 750,969                 | 837,074                 | 878,038                 | 909,813                 |

SOURCES:  
 a DOF 2012.  
 b DOF 2022a.  
 c DOF 2022b.

**TABLE 3.15-2  
 2022 HOUSING DATA ESTIMATES**

|                 | <b>Total Housing Units</b> | <b>Occupied Housing Units</b> | <b>Vacant Housing Units</b> | <b>Vacancy Rate (percent)</b> |
|-----------------|----------------------------|-------------------------------|-----------------------------|-------------------------------|
| Fresno County   | 343,513                    | 324,107                       | 19,407                      | 5.6%                          |
| City of Fresno  | 186,993                    | 178,587                       | 8,406                       | 4.5%                          |
| City of Mendota | 2,889                      | 2,831                         | 58                          | 2.0%                          |
| City of Clovis  | 45,835                     | 43,924                        | 1,911                       | 4.2                           |
| City of Reedley | 7,363                      | 7,124                         | 239                         | 3.2%                          |
| City of Sanger  | 7,827                      | 7,583                         | 244                         | 3.1%                          |
| City of Selma   | 7,246                      | 7,027                         | 219                         | 3.0%                          |
| City of Kerman  | 4,745                      | 4,645                         | 100                         | 2.1%                          |

**TABLE 3.15-2 (CONTINUED)  
2022 HOUSING DATA ESTIMATES**

|                     | <b>Total Housing Units</b> | <b>Occupied Housing Units</b> | <b>Vacant Housing Units</b> | <b>Vacancy Rate (percent)</b> |
|---------------------|----------------------------|-------------------------------|-----------------------------|-------------------------------|
| City of San Joaquin | 937                        | 899                           | 38                          | 4.1%                          |
| City of Firebaugh   | 2,343                      | 2,238                         | 105                         | 4.5%                          |
| City of Newman      | 3,775                      | 3,649                         | 126                         | 2.8%                          |
| City of Madera      | 18,355                     | 17,547                        | 808                         | 4.4%                          |
| City of Chowchilla  | 4,451                      | 4,254                         | 197                         | 4.4%                          |
| City of Merced      | 30,565                     | 28,861                        | 1,704                       | 5.6%                          |
| City of Dinuba      | 7,170                      | 6,914                         | 256                         | 3.6%                          |
| City of Visalia     | 49,513                     | 47,591                        | 1,922                       | 3.9%                          |
| City of Tulare      | 21,900                     | 21,127                        | 773                         | 3.5%                          |
| City of Hanford     | 20,171                     | 19,398                        | 773                         | 3.8%                          |
| City of Coalinga    | 4,658                      | 4,281                         | 377                         | 8.1%                          |
| City of Avenal      | 2,591                      | 2,482                         | 109                         | 4.2%                          |
| City of Huron       | 1,641                      | 1,587                         | 54                          | 3.3%                          |
| Kern County         | 305,853                    | 285,715                       | 20,138                      | 6.6%                          |

SOURCE: DOF 2022c.

### 3.15.1.3 Regulatory Setting

#### ***Federal***

No federal statutes, regulations, plans, or policies govern population- and housing-related considerations that apply to the Project.

#### ***State***

##### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over land use considerations related to PG&E’s construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E’s work (as regulated by the CPUC) would not be subject to the County’s or Kern County’s land use–related requirements, including their governance of population and housing issues. However, CPUC General Order No. 131-D, Section XIV.B would require PG&E to “consult with local agencies regarding land use matters,” potentially including any impacts related to population and housing.

## **Regional**

### **Fresno Council of Governments**

The Fresno Council of Governments (Fresno COG) is a regional planning organization with representatives from Fresno County and its 15 incorporated cities. Fresno COG's primary responsibilities include transportation and housing planning. Fresno COG is the state-designated regional transportation planning agency and federally designated metropolitan planning organization for Fresno County (Fresno COG 2022).

Fresno COG is responsible for preparing the regional housing needs allocation (RHNA) plan, a state-mandated document that determines the number of housing units each city and county are responsible for accommodating in the housing element sections of their general plans. The Fresno County RHNA Plan was last updated in 2013 and approved in July 2014 (Fresno COG 2014). The planning period for the 2013 RHNA extends for 11 years from January 2013 to December 2023. The plan, which relies on census data from 2010, data from the California Department of Finance and California Department of Housing and Community Development, and Fresno COG calculations, determined how best to allocate regional housing needs to Fresno County jurisdictions (Fresno COG 2014).

## **Local**

### **Fresno County General Plan**

The 2000 Fresno County General Plan is undergoing an update (Fresno County 2021); however, as of August 2023, the update has not been finalized (Fresno County 2023). Accordingly, this analysis relies on the goals, policies, and implementation measures related to population and housing that are set forth in the 2000 Fresno County General Plan (Fresno County 2000).

In February 2013, Fresno COG assembled an RHNA Technical Committee with representatives from all Fresno County local governments. This committee prepared the Fresno Multi-Jurisdictional Housing Element for Fresno County governments with the goal of creating regional coordination to address countywide housing issues and needs (Fresno County 2016). This regional housing element update covers the planning period of December 2015 through December 2023, representing the 2015–2023 Housing Element for 13 jurisdictions in Fresno County, including Fresno County and the City of Mendota. The Housing Element Update was adopted in April 2016 (Fresno County 2016).

The following Multi-Jurisdictional Housing Element policies are relevant to the Project:

**Policy 1.9:** Encourage development around employment centers that provides the opportunity for local residents to live and work in the same community by balancing job opportunities with housing types.

**Policy 3.1:** Preserve the character, scale, and quality of established residential neighborhoods by protecting them from the encroachment of incompatible or potentially disruptive land uses and/or activities.

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017). Although the Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. Multiple provisions of the Solar Facility Guidelines are relevant to this analysis of potential impacts related to population and housing, including the following:

- **Guideline 12:** If the project is approved, the applicant shall make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local workforce.
- **Guideline 14:** If the project is approved, the applicant shall make all reasonable efforts to purchase products and equipment from local (Fresno County) manufacturing facilities and/or vendors.

See Appendix I, *Land Use and Planning*, for details about Project consistency with other provisions of the Solar Facility Guidelines.

### **3.15.2 Significance Criteria**

The Project would result in a significant impact related to population and housing if it would:

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

### **3.15.3 Direct and Indirect Effects**

#### **3.15.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Section 2.5.9, *Applicant-Proposed Measures and Design Features*, in Chapter 2, *Project Description*. None of them focus on potential impacts related to population or housing.

### 3.15.3.2 Methodology

The evaluation of potential population and housing impacts was based on the likelihood that the Project would induce substantial unplanned population growth within approximately 75 miles of the Project site or displace people or housing within that area such that replacement housing could be required. The nature of the Project, in consideration with the population and housing characteristics of this region, was used to determine whether the Project would result in a significant population and housing impact.

### 3.15.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).

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The Project would not induce substantial unplanned population growth in an area, either directly or indirectly. The Project would not include any new homes or businesses, and thus would not directly induce population growth. The Project would not indirectly induce population growth with the construction of the perimeter, access, and internal roads, or from the addition of other Project infrastructure interior to the Project site because these improvements would not be accessible to the public.

The Project could have an indirect impact related to population growth in the study area if the workforce associated with the Project were to result in an increase in the local population, the removal of barriers to development, or provide resources that lead to secondary growth. Considerations for worker numbers and the construction timeline are described in Section 2.5.6.2, *Construction Workforce and Schedule*, in Chapter 2, *Project Description*. Project construction is anticipated to employ a maximum of 150 on-site personnel. However, the average number of workers on-site could be less, depending on which battery energy storage technology is selected. See Section 2.5.6.2, *Construction Workforce and Schedules*, for a comparison of the average workforce between lithium ion technology and a lithium ion and iron flow technology project. For the energy storage components, decommissioning and site restoration activities are expected to require a workforce similar to or smaller than that for construction. Construction of the PG&E infrastructure would require up to four crews of six working approximately 10-hour days, 6 days per week, for a total crew of up to 24 workers employed during construction.

Once operational, the Project would require limited personnel to visit the Project site. The Project site would be remotely operated and monitored 7 days a week through the proposed supervisory control and data acquisition system. Routine maintenance and one annual maintenance inspection are expected to occur as described in Section 2.5.7, *Energy Storage System Operation and Maintenance*, of Chapter 2, *Project Description*. Operation and maintenance of the expanded portion of the Gates Substation would be similar to operation and maintenance of the existing substation, with minimal new vehicle trips, equipment repairs, and replacements as necessary. No new employees would be needed to operate or maintain the Midway Substation.



The existing construction labor pool in Fresno County is sufficient for meeting Project needs. The California Employment Development Department estimated that as of October 2022, the unemployment rate in Fresno County was approximately 5.8 percent, compared to the statewide unemployment rate of 3.8 percent (EDD 2022). As of October 2022, 25,000 individuals in Fresno County were unemployed. In October 2021, the construction industry employed an average of 20,300 individuals in Fresno County. One year later, the number of individuals employed in the construction industry increased slightly, reaching 20,800 individuals in October 2022 (EDD 2022). Consistent with Fresno County Solar Facility Guideline 12, the Project is committed to recruiting and hiring from the local workforce. Industry and unemployment data suggest that the number of jobs created by the Project's construction, operation, and decommissioning could be served by the existing labor pool in Fresno County. Any increase in local economic activity resulting from the Applicant's commitment to purchase local products and equipment in compliance with Guideline 14 is not anticipated to be significant and would not result in in-migration of workers to the study area. Given the limited number of workers required for PG&E to implement the minor upgrades proposed for the Midway Substation, and in light of the short duration of that work, no in-migration of workers is expected to be needed for the PG&E infrastructure improvements in that area.

Further, the Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.

As a result, workers would be expected to commute to the Project site and PG&E's Project-related work sites from local and regional towns and cities, rather than relocating. Therefore, construction, operation, and decommissioning of the Project is not expected to require substantial numbers of new housing units, the construction of which could cause environmental impacts. Additionally, even if all of the Project's construction, operation and maintenance, and decommissioning workforce moved into Fresno County, the county's housing market would have the capacity to absorb the increase in residents without requiring the construction of new housing units. California Department of Finance housing estimates from January 2022 indicated that the county had approximately 19,407 vacant housing units (DOF 2022c). Therefore, the Project would not directly or indirectly induce substantial unplanned population growth in an area. (*No Impact*)

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**Criterion b)** Whether the Project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

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The Project would not displace any existing residents or housing, as the Project's energy storage system and associated facilities would be located on vacant and agricultural lands, absent of people and existing housing developments or residences. The nearest residences are located 3,300 feet west of the Project site on West Jayne Avenue; 11,500 feet to the southeast at the intersection of Modoc Avenue and West Goodrich Avenue; and 17,000 feet to the east on West Jayne

Avenue. The Project would not displace any existing residents or housing. Because no people or housing would be displaced by construction or operation of the Project, it would not be necessary to construct replacement housing elsewhere and no impact would occur under this criterion. (*No Impact*)

### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact related to either inducement of substantial unplanned population growth or the displacement of existing people or housing. No population growth or displacement of housing or residences would result from construction or operation of the infrastructure and transmission line upgrades required for the Project.

**Mitigation:** None required.

## 3.15.4 Cumulative Effects Analysis

Because the Project would cause no impact with respect to substantial unplanned population growth or a need for new housing, the Project would not cause or contribute to any cumulative impacts related to population and housing.

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## 3.16 Public Services

This section identifies and evaluates issues related to public services, including fire and police protection, schools, parks, libraries, and medical providers. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used in evaluating these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to public services (**Appendix A, Scoping Report**).

### 3.16.1 Setting

#### 3.16.1.1 Study Area

The study area for the analysis of potential impacts on public services includes the service areas of fire protection, law enforcement services, schools, parks, library, and medical providers that would serve the Project.

#### 3.16.1.2 Environmental Setting

##### ***Fire Protection***

Fire protection services in the vicinity of the Project site are provided by the Fresno County Fire Protection District (FCFPD). The FCFPD serves a population of more than 220,000 in a service area encompassing approximately 2,655 square miles in the communities of Tarpey Village, Calwa, Easton, Malaga, Del Rey, Caruthers, San Joaquin, Tranquillity, Prather, Friant, Tollhouse, Wonder Valley, Cantua Creek, Three Rocks, Five Points, Centerville, Tivy Valley, and Sand Creek and the cities of San Joaquin, Parlier, Mendota, and Huron (FCFPD 2022a). The FCFPD provides a full range of emergency response services, which include structural and wildland fire suppression, response to hazardous materials incidents, search and rescue, technical rescue, vehicle extrication, and basic life support medical services. The department employs a staff of 48. FCFPD emergency response personnel respond to more than 14,000 incidents annually, of which approximately 68 percent are medical incidents, for which the FCFPD provides Basic Life Support (FCFPD 2022b).

The nearest fire station to the Project site is Station 93, located approximately 5 miles (8 minutes by car) northeast of the Project site at 36421 S. Lassen Avenue in the community of Huron (FCFPD 2022c). Fire protection services in and to the community of Buttonwillow, where PG&E's existing Midway Substation is located, are provided by Kern County Fire Station 25 located at 100 Mirasol Avenue in Buttonwillow (Kern County Fire Department 2023).

##### ***Police Services***

Fresno County Sheriff's Office (FCSO) patrol services are divided into four patrol areas, each commanded by a lieutenant who supervises field services from the patrol area's substation.

The Project site is located within Patrol Area 1. The Area 1 substation is located at 21925 West Manning Avenue in the city of San Joaquin, approximately 40 miles north of the Project site via Lassen Avenue. Area 1 encompasses more than 2,400 square miles in western Fresno County and serves the incorporated cities of San Joaquin, Coalinga, Huron, Kerman, Mendota, and Firebaugh. It also serves the unincorporated communities of Tranquillity, Biola, Five Points, Helm, Three Rocks, Cantua Creek, and Dos Palos, as well as the city of San Joaquin (contracted). Because of staffing shortages, the Area 1 substation is currently closed to the public (FCSO 2022a, 2022b). Police services in and to the community of Buttonwillow are provided by Kern County's North Area Substation (Kern County Sheriff's Office 2023).

### **Schools**

The Project site is located within the Coalinga-Huron Unified School District (CHUSD), which includes one kindergarten, four elementary schools, two middle schools, and one high school. CHUSD also includes continuation schools and independent study options (Fresno County Superintendent of Schools 2022; CHUSD 2022). The district serves more than 5,000 students throughout the cities of Coalinga and Huron in Fresno County. Huron Middle School is closest to the Project site, located approximately 5 miles to the northeast. The Buttonwillow Union School District serves the community of Buttonwillow (Kern County 2023).

### **Libraries**

The libraries nearest to the Project site are the Huron Public Library and the Avenal Branch Library, which are a part of the Coalinga-Huron Library District. The Huron Public Library is located approximately 6 miles northeast of the Project site and the Avenal Branch Library is located approximately 9 miles south of the Project site (Coalinga-Huron Library District 2022). The Kettleman City Branch Library, Stratford Branch Library, and Lemoore Branch Library are all located within 25 miles of the Project site. In Kern County, library services nearest PG&E's existing Midway Substation are provided by the Buttonwillow Branch Library (Google Maps 2023).

### **Parks**

Fresno County offers a variety of recreational opportunities such as regional parks, city parks, state and national parks, national forests, wilderness areas, and scientific research areas. The Project site is not located within the immediate vicinity of any parks or recreational facilities, and no parks or existing recreational facilities are located on the Project site, as discussed further in Section 3.17, *Recreation*. The nearest recreational facility is Keenan Park, located approximately 4 miles northeast of the Project site.

### **Emergency Medical Services**

The nearest hospital to the Project site is the Coalinga Regional Medical Center, located in the city of Coalinga, approximately 12 miles northwest of the Project site. The Coalinga Regional Medical Center provides acute care, a clinical lab, and 24-hour-per-day emergency services (City of Coalinga 2022). The next nearest hospital is the Naval Health Clinic, located in the city of Lemoore approximately 16 miles northeast of the Project site. Medical services include primary

and preventative care, hospital care and surgery services, urgent and emergency care, and specialty and other care (Naval Health Clinic 2022). The next nearest medical service centers are Adventist Health Hanford and Adventist Health Tulare. The medical service provider nearest to PG&E's existing Midway Substation is Omni Family Health, a community clinic (Omni Family Health 2023).

### **3.16.1.3 Regulatory Setting**

#### ***Federal***

No federal statutes, regulations, or policies apply to the analysis of public services for the Project.

#### ***State***

##### **California Public Resources Code Sections 4294 and 4293**

Details on the relevant fire regulations are provided in Section 3.20, *Wildfire*.

##### **Red Flag Fire Warning and Weather Watches**

Red-flag warnings and fire-weather watches aim to prevent fire events and reduce the potential for substantial damage. When extreme fire weather or behavior is present or predicted in an area, a red-flag warning or fire-weather watch may be issued to advise local fire agencies that these conditions are present. The National Weather Service issues red-flag warnings and fire-weather watches, and the California Department of Forestry and Fire Protection provides safety recommendations for preventing fires. These include clearing and removing vegetation and ensuring the proper use of equipment.

##### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E's work (as regulated under state law by the CPUC) would not be subject to the County's or Kern County's local land use requirements. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters," potentially including potential impacts on public services.

#### ***Local***

##### **Fresno County General Plan**

The Public Facilities and Services Element of the Fresno County General Plan contains goals, policies, and implementation program measures to ensure that public facilities and services are adequately available and accessible in a timely fashion to serve new development (Fresno County 2000).

The following goals and policies in Section G, *Law Enforcement*, of the Public Facilities and Services Element may be relevant to the Project:

**Goal PF-G.** To protect life and property by deterring crime and ensuring the prompt and efficient provision of law enforcement service and facility needs to meet the growing demand for police services associated with an increasing population.

**Policy PF-G.2:** The County shall strive to maintain a staffing ratio of two (2) sworn officers serving unincorporated residents per 1,000 residents served. (This count of officers includes all ranks of deputy sheriff personnel and excludes all support positions and all sworn officers serving county wide population interests such as bailiffs, and sworn officers serving contract cities and grant specific populations.)

The following goals, policies, and implementation programs in Section H, *Fire Protection and Medical Services*, of the Public Facilities and Services Element are relevant to the Project:

**Goal PF-H.** To ensure the prompt and efficient provision of fire and emergency medical facility and service needs, to protect residents of and visitors to Fresno County from injury and loss of life, and to protect property from fire.

**Policy PF-H.1:** The County shall work cooperatively with local fire protection districts to ensure the provision of effective fire and emergency medical services to unincorporated areas within the county.

**Policy PF-H.2:** Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in unincorporated areas of the County shall not be approved unless adequate fire protection facilities are provided.

**Policy PF-H.8:** The County shall encourage local fire protection agencies in the county to maintain the following as minimum standards for average first alarm response times to emergency calls:

- a. 5 minutes in urban areas;
- b. 15 minutes in suburban areas; and
- c. 20 minutes in rural areas.

**Policy PF-H.10:** The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other State and local ordinances.

**Policy PF-H.11:** The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public, consistent with current practice.

The following goals, policies, and implementation programs in Section I, *Schools and Library Facilities*, of the Public Facilities and Services Element are relevant to the Project:

**Goal PF-I.** To provide for the educational needs of Fresno County and provide libraries for the educational, recreational, and literary needs of Fresno County residents.



**Policy PF-I.1:** The County shall encourage school districts to provide quality educational facilities to accommodate projected student growth in locations consistent with land use policies of the General Plan.

**Policy PF-I.4:** The County shall work cooperatively with school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs and shall assist school districts in locating appropriate sites for new schools.

The following goals, policies, and implementation programs in Section H of the Open Space and Conservation Element are relevant to the Project:

**Policy OS-H.2:** The County shall strive to maintain a standard of five (5) to eight (8) acres of County-owned improved parkland per one thousand (1,000) residents in the unincorporated areas.

### 3.16.2 Significance Criteria

The Project would result in a significant impact related to public services if it would:

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
  - i. Fire protection.
  - ii. Police protection.
  - iii. Schools.
  - iv. Parks.
  - v. Other public facilities.

### 3.16.3 Direct and Indirect Effects

#### 3.16.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of these, the actions described in Section 2.5.9.2, *Fire Protection*, could reduce the Project's demand on public services.

#### 3.16.3.2 Methodology

The evaluation of potential public services impacts was based on the likelihood that the Project would increase demand for, alter, or interfere with existing public services in a manner that would generate a need for the construction of new or the alteration of existing public services facilities, the construction of which could cause an adverse change in the physical environment.

### 3.16.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would 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 fire protection, police protection, schools, parks, or other public facilities.

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#### ***Fire Protection***

No new or physically altered fire facilities are proposed as part of the Project, nor would the Project result in an increase in population that would require the provision of new or physically altered fire facilities, because no housing is proposed as part of the Project and no permanent staffing would be associated with operation and maintenance at the Project site.

During construction, the peak daily workforce could reach a peak of 150 workers; however, on average, fewer workers would be present on-site. Construction workers would not create a substantial population increase typically associated with impacts under this criterion. Increased traffic in the Project vicinity could temporarily affect the demand for fire protection if motor vehicle accidents were to occur or if construction activities were to ignite a fire requiring an emergency response. However, vehicle use of area roadways resulting from Project construction activities would be temporary and the increase in demand is not expected to be significant; therefore, it would not affect the FCFPD's ability to respond to incidents within the recommended time periods described in General Plan Policy PF-H.8. For rural areas like the Project site, Policy PF-H.8 identifies a minimum expected response time of 20 minutes. The nearest fire station to the Project site is Station 93, approximately 5 miles (8 minutes by car) northeast of the Project site in the community of Huron; therefore, the FCFPD would be able to respond to incidents within the recommended time for rural areas (FCFPD 2022c).

Increases in long-term demand for fire protection services are typically associated with substantial population increases. Although the Project site would be remotely monitored, routine on-site maintenance would also occur. During these visits, maintenance would include vegetation control to reduce the risk of a Project-related fire. Furthermore, the Applicant would design and implement fire protection systems for each phase of the Project in accordance with the 2016 California Fire Code (24 Cal. Code Regs Part 9) and would consider the recommendations of the National Fire Protection Association 855 standards for the installation of stationary energy storage systems. The battery energy storage system would include several methods of failure detection, including temperature, humidity controls, and smoke detection. For more information regarding fire protection, prevention, and detection measures and design features, see Section 2.5.9.2, *Fire Protection*, in Chapter 2, *Project Description*. Compliance with requirements and the implementation of additional fire-safety measures would avoid or reduce potential adverse impacts related to fire risk.

Construction, operation, and decommissioning of the Project would not result in physical or operational changes that would interfere with FCFPD response times or performance objectives such that provision of new or physically altered FCFPD facilities would be required. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. *(No impact)*

### **Police Services**

Similar to impacts on fire protection services, the Project's construction, operation and maintenance, and decommissioning activities could temporarily affect demand for police protection services, but the effect would not be significant enough to require the construction of new or physically altered police protection facilities or require or result in the hiring of additional police officers.

Police services may be required in the instance of theft or vandalism at the Project site. To limit theft or vandalism, the site would be surrounded by security fencing with ingress/egress access gates that would restrict on-site access to authorized personnel. Additional preventive security would include a motion-activated security lighting system. Although it is undetermined whether the substation would require on-site staffing, the Project would be monitored remotely 7 days a week through the Applicant's supervisory control and data acquisition (SCADA) system. Perimeter fencing, security lighting, and the Applicant's SCADA system would help to mitigate theft or vandalism at the Project site. Operation and maintenance of the expanded portion of the Gates Substation would be similar to operation and maintenance of the existing substation, with minimal if any new vehicle trips and equipment repairs and replacements as necessary. No new employees would be needed to operate or maintain the Midway Substation.

Construction, operation, and decommissioning of the Project could result in increases in the demand for police protection services. Fresno County General Plan Policy PF-G.2 indicates that the ideal population to police ratio is 2 sworn officers per 1,000 unincorporated residents. As discussed in Section 3.15, *Population and Housing*, the Project would have no impact on population growth, and therefore would not affect the ability of the FCSO to maintain its population-to-police ratio. Accordingly, the Project would not require new or physically altered FCSO facilities or the hiring of additional law enforcement personnel. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire police protection services. *(No Impact)*

### **Schools**

Impacts that would require the provision of new or altered school facilities as a result of a project are typically associated with a substantial increase in population. No housing is proposed as part of this Project, nor would any be required by its development. As stated above and discussed further in Section 3.15, *Population and Housing*, the workforce required for construction, operation and maintenance, and decommissioning would not contribute to a substantial increase in population because construction activities would be temporary. The Project site would be

monitored remotely, and routine on-site maintenance would occur. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for schools. *(No Impact)*

### ***Libraries***

Similar to impacts on schools, impacts on libraries are typically associated with a substantial increase in population. As discussed above, the peak daily workforce for the Project would reach approximately 150 workers; however, on average, fewer workers would be present on-site. It is anticipated that the majority of workers would be sourced locally and would not relocate to the area. Construction, operation, maintenance, and decommissioning of the Project would neither increase the demand on existing library facilities nor require the construction of new or expansion of any existing library facilities. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for libraries. *(No Impact)*

### ***Parks***

As discussed in Section 3.17, *Recreation*, the Project would not result in the construction or alteration of park facilities and, as analyzed in Section 3.15, *Population and Housing*, would not result in population increases that would affect Fresno County's ability to meet or maintain its parkland provision goals. The Project would not require or result in the provision of new park facilities or alterations to existing park facilities, the construction of which could cause a significant impact. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for parks. *(No Impact)*

### ***Emergency Medical Services***

Similar to impacts on schools and libraries, impacts related to emergency medical services are typically associated with an increase in population. The nearest hospital to the Project site is the Coalinga Regional Medical Center, located in the city of Coalinga, approximately 12 miles northwest of the Project site. If an incident requiring medical attention were to occur during the construction, operation, or decommissioning of the Project site, Project workers would be near the Coalinga Regional Medical Center. However, because most workers would likely be sourced locally, the Project is not expected to affect the ability of local medical facilities to serve the community. The Project would not substantially increase the population that could result in an increased demand for emergency medical services or necessitate the construction or expansion of additional medical facilities. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for emergency medical services. *(No Impact)*

### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact on public services, because the number of workers required for the Project interconnection infrastructure work would be small—most likely from the local area—and because the necessary work would be of too short a duration to cause in-migration of workers to support it.

**Mitigation:** None required.

### **3.16.4 Cumulative Effects Analysis**

Because the Project would cause no impact with respect to the provision of new or physically altered facilities for fire or police protection, schools, libraries, parks, or emergency medical services, the Project would not cause or contribute to any cumulative impact related to such services.

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### **3.16.5 References**

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## 3.17 Recreation

This section identifies and evaluates issues related to recreation. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used in evaluating these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to recreation (**Appendix A, Scoping Report**).

### 3.17.1 Setting

#### 3.17.1.1 Study Area

The study area for the analysis of potential recreation impacts includes the Project site and the parks, open spaces, and other lands used for recreational purposes within 15 miles of the site.

#### 3.17.1.2 Environmental Setting

Recreational opportunities in Fresno County include regional parks, city parks, state and national parks, national forests, wilderness areas, scientific research areas, and other facilities. There are no recreational resources within the Project site (Fresno County 2000). Keenan Park is the closest recreation facility to the Project site, located approximately 4 miles to the northeast. **Table 3.17-1** lists the recreational facilities within 15 miles of the Project site. In Buttonwillow, Kern County, the closest recreational facilities to PG&E’s existing Midway Substation are located approximately 0.2 miles west at the Buttonwillow Recreation and Park District. Recreational facilities at the Buttonwillow Recreation and Park District include a playground, pool, tennis courts, and three ballparks (Google Maps 2023). See Chapter 2, Figure 2-5, *Midway Substation Location*.

**TABLE 3.17-1  
RECREATION FACILITIES WITHIN 15 MILES OF THE KEY ENERGY STORAGE PROJECT SITE**

| Recreational Facility         | Managing Agency                             | Approximate Distance from Project Site |
|-------------------------------|---|--|
| Keenan Park                   | Coalinga-Huron Recreation and Park District | 4 miles northeast                      |
| Chestnut Park                 | Coalinga-Huron Recreation and Park District | 5 miles northeast                      |
| George E. Olsen Memorial Park | Coalinga-Huron Recreation and Park District | 12 miles west                          |
| Keck Park                     | Coalinga-Huron Recreation and Park District | 14 miles west                          |
| Coalinga-Huron Sports Complex | Coalinga-Huron Recreation and Park District | 13 miles west                          |
| Huron Fishing Access          | Fresno County                               | 8 miles northeast                      |

SOURCES: Coalinga-Huron Recreation and Park District 2022; Fresno County 2022.

## Federal Recreation Resources

No federally administered public lands are located within or near the Project site. The closest federal recreational site is the Curry Mountain Recreation Area, located approximately 26 miles southwest of the Project site (BLM 2022).

## State Recreation Resources

There are no state recreation areas on or near the Project site. The nearest state park to the Project site is Colonel Allensworth State Historic Park, located in unincorporated Tulare County approximately 46 miles southeast of the Project site (California Department of Parks and Recreation 2022).

## Local Recreation Resources

There are a variety of recreational resources in Fresno County: regional parks, state parks, national parks, national forests, and wilderness areas. The County's General Services Department has primary responsibility for the development and maintenance of the Fresno County park system. Table 3.17-1 identifies the local parks nearest to the Project site. In Kern County, the Kern County Parks and Recreation Department has primary responsibility for the development and maintenance of parks and recreation facilities (Kern County 2023).

### 3.17.1.3 Regulatory Setting

#### ***Federal***

No federal regulations, plans, or policies govern recreation-related considerations applicable to the Project.

#### ***State***

No state regulations, plans, or policies govern recreation-related considerations applicable to the Project.

#### ***Local***

The Fresno County General Plan's Open Space and Conservation Element discusses policies to enhance recreational opportunities in the county by encouraging further development of public and private recreational opportunities. The following goal and policies in Section H, *Parks and Recreation*, are relevant to the Project, including one policy that provides a quantitative goal for the provision of parkland (Fresno County 2000):

**Goal OS-H:** To designate land for and promote the development and expansion of public and private recreational facilities to serve the needs of residents and visitors.

**Policy OS-H.2:** The County shall strive to maintain a standard of five (5) to eight (8) acres of County-owned improved parkland per one thousand (1,000) residents in the unincorporated areas.



**Policy OS-H.6:** The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible.

**Policy OS-H.14:** The County shall encourage the development of recreation facilities in western Fresno County.

The Kern County *Parks and Recreation Master Plan* discusses goals, policies, and actions to enhance recreational opportunities in the county by encouraging further development of public and private recreational opportunities. Master Plan Chapter 5, *Policies, Goals and Actions*, provides one quantitative goal for the provision of parkland (Kern County 2010):

**Goal 2:** Provide a minimum standard of 5 acres of park land per 1,000 residents. This standard would apply to regional parks serving the entire County, as well as local parks in unincorporated areas of the County not served by a local park district.

### 3.17.2 Significance Criteria

The Project would result in a significant recreation impact if it would:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

### 3.17.3 Direct and Indirect Effects

#### 3.17.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts on recreation resources.

#### 3.17.3.2 Methodology

The Project's proposed location and components were reviewed relative to the location and capacity of parks and recreational facilities within an approximately 15-mile radius of the Project site to determine whether Project-caused changes to the physical environment would be significant.

### 3.17.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

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The Project site is not located close to existing parks or recreational facilities. Increases in the use of recreational facilities that are associated with substantial physical deterioration are typically caused by substantial population increases or by a substantial reduction in the availability of existing parks or other recreational facilities. As highlighted in Section 3.15, *Population and Housing*, the Project would not result in any substantial population growth in the area. The number of construction workers is expected to be limited (no more than approximately 150 people on-site at any one time during peak construction or decommissioning) and only one or two workers would visit the site weekly during operation and maintenance, with one annual maintenance inspection expected to occur. PG&E's operation and maintenance of the expanded portion of the Gates Substation would be similar to existing operation and maintenance, with minimal new vehicle trips, equipment repairs, and replacements as necessary. No change relative to existing conditions would be associated with PG&E's modifications to the existing Midway Substation. Therefore, the Project would not result in a substantial increase in existing demand for parks and recreation-related facilities and no deterioration of any recreational facilities would occur. No impact would occur under this criterion. (*No Impact*)

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**Criterion b)** Whether the Project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

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The Project does not propose to construct new or expand existing recreational facilities that might have an adverse physical effect on the environment. Similarly, the Project would not require the construction or expansion of recreational facilities. As described in Section 3.15, *Population and Housing*, the Project would not result in population growth, and therefore would not affect the County's ability to provide park facilities at the ratio described in General Plan Policy OS-H.2. Because the Project would not result in the construction or expansion of any recreational facilities, there would be no adverse physical effects on the environment associated with such facilities. No impact would occur. (*No Impact*)

#### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's

construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact on recreation resources, because no new or expanded recreation resources are proposed, nor would any be expanded as a result of PG&E's work; because the number of workers required to implement the work would be small and from the local area; and because the necessary work would be of too short a duration to cause in-migration of workers to support it.

**Mitigation:** None required.

### 3.17.4 Cumulative Effects Analysis

As described in Section 3.17.3.2, *Direct and Indirect Effects of the Project*, the Project would result in no impact related to recreation. Therefore, the Project could not cause or contribute to a significant cumulative recreation impact.

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### 3.17.5 References

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## 3.18 Transportation

This section identifies and evaluates issues related to transportation, including the circulation system, vehicle miles traveled (VMT) as contemplated in CEQA Guidelines Section 15064.3(b), roadway hazards, and emergency access. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping input from the California Department of Transportation (Caltrans) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to transportation. Caltrans recommended that a traffic impact study be conducted, advised that Caltrans may require preparation of a transportation management plan to account for construction traffic, and provided information about encroachment permit requirements. SJVAPCD encouraged consideration of measures that would reduce VMT. Copies of these letters are provided in Exhibit E of **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the *Key Energy Storage Project Transportation Impact Analysis* and the *Trip Generation – Distribution Memorandum*, each prepared by VRPA Technologies, Inc., on the Applicant's behalf (**Appendix K**, *Transportation*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed these and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.18.1 Setting

#### 3.18.1.1 Study Area

The Project site is located in western Fresno County approximately 1,700 feet northeast of Interstate 5 (I-5) at the closest point, immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route [SR] 269). Access to the Project site would be provided by the existing roadway network described below; primary driveway access from the public roadway network would be provided along West Jayne Avenue. The transportation study area includes all nearby roadways where Project construction, operation and maintenance, and decommissioning activities would add vehicle trips. In addition, the transportation study area includes pedestrian, bicycle, and transit facilities located on public roadways adjacent to the Project site (i.e., SR 269 and West Jayne Avenue).

#### 3.18.1.2 Environmental Setting

The environmental setting includes transportation facilities that would be used to access the Project site, which includes major highways and local roadways, public transportation, and nonmotorized transportation.

### **Major Highways**

SR 269 (South Lassen Avenue), about 1.25 miles east of the Project site, extends north from Avenal to Five Points and provides access to the Project site via West Jayne Avenue. The average daily traffic (ADT) volume on SR 269 in the vicinity of the Project site is approximately 2,000 vehicles, with up to approximately 200 vehicles during the peak traffic hour (Caltrans 2020a).

I-5 is a north-south interstate highway that extends from the U.S. border with Mexico to the Canadian border and provides access for goods movement, shipping, and travel. Access to the Project site from I-5 is provided via interchanges at West Jayne Avenue and SR 269. The ADT volume on I-5 between West Jayne Avenue and SR 269 is approximately 35,000 vehicles, with up to approximately 4,950 vehicles during the peak traffic hour (Caltrans 2020a).

### **Local Roads**

West Jayne Avenue is a two-lane undivided major roadway that provides a connection from Coalinga, about 11.5 miles west of the Project site, to Avenal Cutoff Road (Fresno County/Kings County line), approximately 6 miles east of the Project site. West Jayne Avenue intersects I-5 via a full interchange west of the Project site and meets SR 269 at a four-way stop intersection east of the Project site. All vehicle trips generated by the Project would access the Project site from West Jayne Avenue via one of the two regional facilities listed above. The ADT volume on West Jayne Avenue adjacent to the Project site is approximately 3,450 vehicles (Fresno COG 2013). Traffic counts collected for the Project during the peak period (i.e., 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) in January 2023 indicated that peak-hour volumes on West Jayne Avenue adjacent to the Project site are approximately 375 vehicles during the morning and afternoon peak hours.

### **Public Transportation**

Public transportation in the vicinity of the Project site is provided by the Fresno County Rural Transit Agency/Coalinga Inter-City Transit, which provides scheduled round-trip service from Coalinga to the Fresno-Clovis Metropolitan Area with stops in Huron, Five Points, Lanare, Riverdale, Caruthers, Raisin City, and Easton along the route. Service is available Monday through Saturday from 8:00 a.m. to 5:45 p.m. (FCRTA 2021). A portion of this service operates on West Jayne Avenue adjacent to the Project site but does not provide access via a bus stop. The closest bus stop is located approximately 6 miles north of the Project site on SR 269 in Huron.

### **Nonmotorized Transportation**

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the Project site or along the surrounding roadways or highways, including SR 269 and West Jayne Avenue. The Fresno County Regional Bicycle and Recreational Trails Master Plan identifies a planned 14.5-mile Class II Bikeway on West Jayne Avenue between SR 33 and the Fresno County/Kings County line, which would run directly adjacent to the Project site.<sup>1</sup> Bicycle facilities on paved

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<sup>1</sup> This planned bicycle facility is not identified as a priority due to environmental, right-of-way, or jurisdictional issues (*Table VI—Other Unranked Candidate Projects*).

shoulders are commonly found on rural roads without curbs and sidewalks. Shoulder bikeways provide a paved shoulder for bicyclists to travel outside of the travel lane (Fresno County 2013).

### 3.18.1.3 Regulatory Setting

#### **State**

Caltrans has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. Fresno County is under the jurisdiction of Caltrans District 6. The following Caltrans regulations apply to potential transportation and traffic impacts of the Project:

**California Vehicle Code, Division 15, Chapters 1–5 (Size, Weight, and Load).** Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

**California Streets and Highways Code, Sections 660–711, 670–695.** Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery; includes regulations for the care and protection of state and county highways and provisions for the issuance of written permits; and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

#### **Local**

##### **Fresno County General Plan**

The Transportation and Circulation Element of the County General Plan provides the framework for Fresno County decisions concerning the countywide transportation system, which includes various transportation modes and related facilities. It also provides for coordination with the cities and unincorporated communities within the county, with the Regional Transportation Plan (RTP) adopted by the Fresno Council of Governments (COG), and with state and federal agencies that fund and manage transportation facilities within the county. This element of the General Plan sets out goals, policies, and programs related to transportation and circulation. The following transportation-related policies are applicable to the Project:

**Policy TR-A.2:** The County shall plan and design its roadway system in a manner that strives to meet Level of Service (LOS) D on urban roadways within the spheres of influence of the cities of Fresno and Clovis and LOS C on all other roadways in the county.

**Policy TR-A.3:** The County shall require that new or modified access to property abutting a roadway and to intersecting roads conform to access specifications in the Circulation Diagram and Standards section. Exceptions to the access standards may be permitted in the manner and form prescribed in the Fresno County Zoning and Subdivision Ordinances, provided that the designed safety and operational characteristics of the existing and planned roadway facility will not be substantially diminished.

**Policy TR-A.5:** The County shall require dedication of right-of-way or dedication and construction of planned road facilities as a condition of land development, and require an analysis of impacts of traffic from all land development projects including impacts from

truck traffic. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. The County may allow a project to fund a fair share of improvements that provide significant benefit to others through traffic impact fees.

**Policy TR-A.7:** The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system.

**Policy TR-A.8:** The County shall ensure that land development that affects roadway use or operation or requires roadway access to plan, dedicate, and construct required improvements consistent with the criteria in the Circulation Diagram and Standards section of this element.

### **Fresno County Regional Bicycle and Recreational Trails Master Plan**

The Fresno County Department of Public Works and Planning adopted the Regional Bicycle and Recreational Trails Master Plan to establish a framework for future development of Fresno County's bicycle and recreational trail network and makes the County eligible for local, state, and federal funding (Fresno County 2013). The Bicycle and Regional Trails Master Plan provides a comprehensive, long-term planning horizon for development of an extensive regional bikeway and recreational trails network that connects cities and unincorporated areas countywide. The plan implements various policies contained in the Transportation and Circulation and Open Space and Conservation elements of the County's General Plan (Fresno County 2000).

The plan was amended in 2013 to meet the requirements of the 2006 Measure "C" Transportation Sales Tax Extension, Local Transportation Program by adding recreational trails to the plan. The plan coordinates the regional bikeway system with existing local bikeway plans that tie into a comprehensive bikeway system; coordinates the Fresno County regional nonmotorized transportation system with adjoining counties; and identifies barriers that inhibit safe and convenient nonmotorized travel and includes a list of corrective measures to remove the barriers. The plan contains Policy BP-A.5, which requires that development projects adjacent to designated bikeways provide adequate rights-of-way or easements.

### **Fresno County Regional Active Transportation Plan**

The Fresno COG adopted the Fresno County Regional Active Transportation Plan on February 22, 2018. The Active Transportation Plan is a comprehensive guide outlining the vision for biking, walking, and other human-powered transportation in Fresno County and a road map for achieving that vision. The Active Transportation Plan proposes a comprehensive network of countywide bikeways, trails, and sidewalks; crossing improvements at key intersections; and locations for recommended bicycle parking. At build-out, the recommended network would add 248 miles of Class I Bikeways (bike paths), 1,591 miles of Class II Bikeways (bike lanes), 59 miles of Class III Bikeways (bike routes), 11 miles of Class IV Separated Bikeways, and 89 miles of sidewalks. Build-out of the plan would also improve 80 intersections and street crossings for pedestrians and add 175 bicycle parking locations (Fresno COG 2018).



This plan meets all requirements for active transportation plans as specified by the California Transportation Commission's 2017 Active Transportation Plan Guidelines.

### **Fresno Council of Governments Regional Transportation Plan**

The 2022 RTP was prepared by the Fresno COG and adopted in July 2022. The RTP is a blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Fresno County. The plan was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, state, and federal agencies. Additionally, the RTP establishes a basis on which funding applications are evaluated. Use of any state or federal transportation funds by local governments must conform to the RTP, the State Implementation Plan for air quality improvements, and the Federal Transportation Improvement Programs. The Fresno COG prepared the 2022 RTP to include a sustainable communities strategy, which is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. The sustainable communities strategy is required by Senate Bill 375, which went into effect in 2009 (Fresno COG 2022). See Section 3.9, *Greenhouse Gas Emissions*, for details.

### **Council of Fresno County Governments Congestion Management Process**

All urbanized areas with a population larger than 200,000 people are required to have a congestion management system, program, or process. The Fresno COG refers to its congestion management activities as the Congestion Management Process (CMP). The 2009 Fresno County CMP was designed to meet the federal requirement under Code of Federal Regulations Title 23, Sections 500.109 and 450.320. The 2017 CMP is an update to the 2009 CMP based on emerging transportation planning practices, such as the transportation performance measurement required under the Moving Ahead for Progress in the 21st Century Act and the Fixing America's Surface Transportation (Fresno COG 2017).

The CMP is a systematic process for managing congestion that provides information on (1) transportation system performance and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. The purpose of the CMP is to help ensure that a balanced transportation system is developed that relates population growth, traffic growth, and land use decisions to transportation system LOS performance standards and air quality improvement. The CMP is an effort to more directly link land use, air quality, transportation, and the use of new advanced transportation technologies as an integral and complementary part of the region's plans and programs. The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. The identified CMP network consists of roadway facilities with slow peak-period travel speeds and are concentrated in the Fresno-Clovis Metropolitan Area. None of the roadways in the Project study area are identified in the CMP.

## 3.18.2 Significance Criteria

The Project would result in significant impacts on transportation if it would:

- a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b);
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- d) Result in inadequate emergency access.

## 3.18.3 Direct and Indirect Effects

### 3.18.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts related to transportation.

### 3.18.3.2 Methodology

#### ***Trip Generation***

**Table 3.18-1** shows trip generation during Project construction. Trip generation during decommissioning would be similar to that during Project construction. Detailed estimates of trip generation for the Project were developed based on planning and scheduling of the construction activities, as well as the Applicant's experience with construction and operation of facilities similar to the Project. For the purposes of CEQA, the values shown in the table provide a conservative scenario, in that they represent the maximum level of construction activity that would occur during installation of the energy storage enclosure over a 76-week period for the Lithium-Ion Battery Option and over a 92-week period for the Lithium-Ion and Iron-Flow Storage Option.<sup>2</sup> Given the distance between nearby population centers and the Project site, it is anticipated that some workers would carpool. However, to provide a conservative estimate of trip generation, it was assumed that all workers would travel to and from the Project site alone in single-occupancy vehicles. The trip generation assumes a passenger car equivalent (PCE) of 3.0 for the large trucks associated with construction activities. PCEs account for differences between trucks and passenger vehicles (i.e., trucks utilize more roadway capacity than passenger vehicles because of their larger size, slower start-up times, and reduced maneuverability).

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<sup>2</sup> The two battery options would generate an equal number of maximum daily and peak-hour construction trips; therefore, the trip generation would be the same.

**TABLE 3.18-1  
TRIP GENERATION FOR PROJECT CONSTRUCTION**

|                           | Daily   |        |           | Trip Generation |     |                |     | PCE Trip Generation |     |                |     |
|---------------------------|---------|--------|-----------|-----------------|-----|----------------|-----|---------------------|-----|----------------|-----|
|                           |         |        |           | A.M. Peak Hour  |     | P.M. Peak Hour |     | A.M. Peak Hour      |     | P.M. Peak Hour |     |
|                           | Workers | Trucks | ADT (PCE) | in              | out | in             | out | in                  | out | in             | out |
| Peak Construction Traffic | 150     | 40     | 540       | 47              | 18  | 24             | 41  | 53                  | 22  | 27             | 46  |

NOTES: ADT = average daily traffic; PCE = passenger car equivalents.

SOURCE: VRPA Technologies, Inc. 2022 (Appendix K).

The determination of a.m. and p.m. peak-hour trips for trucks and autos was based on the Manufacturing category (Land Use Code 140) from the Institute of Transportation Engineers’ *Trip Generation Manual* (11th Edition).

Once constructed, the Project would operate 7 days per week and 365 days per year. The expected facility maintenance would generate little traffic during operation. Only occasional on-site maintenance is expected to be needed after commissioning. Routine operations would require weekly visits to the facility site by one or two workers in a light utility truck. It is anticipated that one annual major maintenance inspection would also occur, which may require up to five workers. Based on the minimal number of vehicle trips described above, there would be no impact on peak-hour traffic associated with ongoing Project operations.

### ***Trip Distribution***

The Project’s traffic distribution was estimated based on an analysis of potential origins and destinations of construction traffic and prevailing traffic patterns. The following construction trip distribution percentages were assumed:

- 45 percent of construction traffic would travel to and from the north via I-5 (35 percent) or via SR 269 and West Jayne Avenue (10 percent).
- 38 percent of construction traffic would travel to and from the south via I-5 (35 percent) or via SR 269 and West Jayne Avenue (3 percent).
- 15 percent of construction traffic would travel to and from the west via West Jayne Avenue.
- 2 percent of construction traffic would travel to and from the east via West Jayne Avenue.

### ***Vehicle Miles Traveled***

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 focus primarily on projects within transit priority areas, and shift the focus from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses. The revisions required lead agencies to evaluate

transportation impacts based on VMT beginning July 1, 2020. VMT is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person. Fresno County has begun, but has not yet completed, consideration of transportation significance thresholds based on VMT. The County has not yet adopted or put into practice its own VMT-based transportation significance thresholds. Where no VMT threshold has yet been adopted, the California Governor’s Office of Planning and Research’s (OPR’s) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) (OPR 2018) provides guidance:

*The VMT metric can support the three statutory goals: “the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” (Public Resources Code §21099(b)(1), emphasis added.) However, in order for it to promote and support all three, lead agencies should select a significance threshold that aligns with state law on all three. State law concerning the development of multimodal transportation networks and diversity of land uses requires planning for and prioritizing increases in complete streets and infill development but does not mandate a particular depth of implementation that could translate into a particular threshold of significance. Meanwhile, the State has clear quantitative targets for GHG emissions reduction set forth in law and based on scientific consensus, and the depth of VMT reduction needed to achieve those targets has been quantified. Tying VMT thresholds to GHG reduction also supports the two other statutory goals. Therefore, to ensure adequate analysis of transportation impacts, OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so.*

In addition to this statewide guidance provided by OPR, the Fresno COG has provided recommendations regarding the analysis of VMT to serve its 16 member jurisdictions (Fresno COG 2020). The local governments can take the recommendations in the Fresno COG Regional Guidelines as appropriate based on their individual circumstances, such as growth policies and economic development goals. The Fresno COG guidance addresses the following elements:

- Context for VMT analysis.
- Project screening.
- VMT significance thresholds and VMT analysis for land use development projects, transportation projects, and land use plans.
- Feasible mitigation strategies applicable for the Fresno region.

### **Traffic Index**

Roadway pavement is designed to carry the truck traffic loads expected during the pavement design life. Truck traffic is the primary factor affecting pavement design life and its serviceability. The calculation of Traffic Index (TI) is a measure of the deteriorating effects of truck traffic on asphalt concrete pavement and provides the information necessary to design a structural section for a roadway. The TI calculation was conducted using the Caltrans *Highway Design Manual* procedures as described in Chapter 610, “Pavement Engineering Considerations,”

Topic 613: Traffic Considerations (Caltrans 2020b). The TI calculation is used by the County to determine the Pavement Condition Index for the roadway segment of West Jayne Avenue between Lake Avenue and the I-5 northbound ramp junction to assess the potential change in pavement conditions with Project-added truck trips.

According to Fresno County, a project would result in a significant TI impact if the project-added traffic causes an increase in the baseline traffic index of 0.5 or more, except on roadways that have been resurfaced within the last 5 years and for which the design TI at the time of the resurfacing exceeded the calculated TI with the project. If the design TI is not available, then the exception shall not apply. A pavement impact, as determined based on the TI analysis, may be mitigated by either constructing an overlay, reconstructing the pavement section, or participating financially in the costs of the mitigation to the extent of the project's fair share.

### 3.18.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

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For the reasons discussed below, the Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (*No Impact*)

Fresno County's General Plan includes policies regarding access and safety standards of roadway facilities, bike facilities, and public transit. The General Plan seeks to coordinate multiple forms of transportation, including cars, commercial vehicles, buses, transit, bicycles, and pedestrian traffic, but does not contain specific policies governing pedestrian traffic. In addition, the following two plans have been adopted to address nonmotorized transportation systems and identify barriers to trails and bikeways: the Regional Bicycle and Recreational Trails Master Plan (Fresno County 2013), and the Fresno County Regional Active Transportation Plan (Fresno COG 2018).

The Project is consistent with the General Plan policies, the Regional Bicycle and Trails Master Plan, and the Fresno County Regional Active Transportation Plan because no public transportation service or dedicated pedestrian or bicycle facilities exist on roadways that would be used to access the Project site. As noted in Section 3.18.1.2, *Environmental Setting*, the Fresno County Regional Bicycle and Recreational Trails Master Plan identifies a planned 14.5-mile Class II Bikeway on West Jayne Avenue between SR 33 and the Fresno County/Kings County line, which would run directly adjacent to the Project site. However, it is unlikely that this facility would be constructed during the same time frame as the Project.<sup>3</sup> Further, the Project does not propose any changes to the West Jayne Avenue public right-of-way that would preclude implementation of the planned bicycle facility. Therefore, the Project would not conflict with

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<sup>3</sup> This planned bicycle facility is not identified as a priority due to environmental, right-of-way, or jurisdictional issues (*Table VI—Other Unranked Candidate Projects*).

adopted policies, plans, or programs supporting alternative transportation. The Project also would not decrease the performance or safety of public transit or pedestrian facilities because there are no facilities in the affected area. Therefore, the Project would cause no impact related to this criterion.

**Impact 3.18-1: Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system. (*Less than Significant with Mitigation Incorporated*)**

### **Site Preparation and Construction**

Consistent with County General Plan Policy TR-A.5, an analysis was conducted to determine whether any impacts would result from passenger vehicle or truck trips generated during Project construction. As described in Chapter 2, *Project Description*, site preparation and construction of each of the four project phases would be short-term and would not overlap one another. The duration of each Project phase would range from an estimated 56 weeks (Phase 1) to 88 weeks (Phases 3 and 4) for the Lithium-Ion Battery Option. For the Lithium-Ion and Iron-Flow Storage Option, the duration of each of the three Project phases would range from an estimated 80 weeks (Phase 2) to 104 weeks (Phases 1 and 3). Construction traffic would result in short-term increases in traffic volumes on study area roadways. With the addition of Project-related construction vehicle traffic to existing roadway volumes without a corresponding increase in roadway capacity, there could be increased congestion and delay for vehicles. Construction truck traffic could temporarily reduce roadway capacities because of the slower travel speeds and larger turning radii of trucks.

The assessment of the potential short-term effect of Project construction traffic on local and regional roads is based on the following: (1) review of existing traffic volume information and (2) consideration of both the percentage increase the Project construction traffic would contribute over existing conditions and the capacity of the road to handle the additional traffic. Because the number of vehicles on roads varies from day to day and routinely fluctuates  $\pm 10$  percent, a change in traffic volume of 10 percent or less is generally not perceptible to the average motorist. Traffic volumes on Project area roads are typically highest during the morning and evening peak commute hours (generally 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.); traffic increases that occur during these peak periods may exacerbate short-term congestion.

As shown in **Table 3.18-2**, ADT on study area roadways would increase by as little as 1.1 percent (I-5) and as much as 15.7 percent (West Jayne Avenue) during the 76-week peak of Project construction activities for the Lithium-Ion Battery Option and the 92-week peak for the Lithium-Ion and Iron-Flow Storage Option. Increases in ADT would be smaller for the remaining construction duration of each Project phase. The magnitude of increases on I-5 and SR 269 are within the range of typical daily variation in traffic levels (usually on the order of  $\pm 10$  percent) that might be expected on the major roadways serving the Project site, and transportation conditions on these roadways would remain substantially similar to current conditions. On West Jayne Avenue, however, the magnitude of increases in traffic volume (greater than the above-cited  $\pm 10$  percent typical daily variation in traffic levels) would be noticeable to the average

motorist. However, based on the capacity of undivided two-lane roadways (approximately 1,700 vehicles per hour per lane) and the volumes shown in Table 3.18-2, the daily traffic capacity of West Jayne Avenue is adequate to accommodate the projected increase in traffic (TRB 2010).

**TABLE 3.18-2  
AVERAGE DAILY TRAFFIC DURING THE PEAK OF PROJECT CONSTRUCTION**

| Roadway           | Existing ADT | Project Traffic ADT | Percent Increase ADT |
|-------------------|--------------|---------------------|----------------------|
| SR 269            | 2,000        | 70                  | 3.5%                 |
| I-5               | 35,000       | 378                 | 1.1%                 |
| West Jayne Avenue | 3,450        | 540                 | 15.7%                |

NOTES: ADT = average daily traffic; I-5 = Interstate 5; SR = State Route

SOURCES: VRPA Technologies, Inc., 2022 (Appendix K); Caltrans 2020a; ESA 2022.

Although the increase in traffic volume on West Jayne Avenue would be noticeable to motorists who regularly travel along these roadways, there would be sufficient capacity to accommodate the added traffic during the construction period, and the operational standards identified in County General Plan Policy TR-A.2 would not be exceeded. However, it is expected that most construction-related traffic would occur during commute hours when construction workers are traveling to and from the Project site, resulting in a potentially significant congestion impact on the affected roadways. Furthermore, if temporary lane closures on West Jayne Avenue are required to accommodate construction of the gen-tie line across the roadway, vehicles traveling on West Jayne Avenue could experience additional delay and/or congestion. Implementation of the Construction Traffic Management Plan identified in **Mitigation Measure 3.10-2**, in Section 3.10, *Hazards and Hazardous Materials*, would reduce the impact of Project construction traffic on study area roadways during peak commute hours to a less-than-significant level.

Consistent with County General Plan Policy TR-A.7, the County would assess fees on the Project sufficient to cover the Project’s fair-share portion of its impacts on the local and regional transportation system, including impacts on the pavement on West Jayne Avenue. The Transportation Impact Study prepared for the Project (see Appendix K) included an analysis of potential pavement impacts, as required by the County. Pavement impacts are analyzed based on a comparison of the TI with and without the Project. Based on the County’s thresholds, the TI analysis concluded that construction of the Project would result in a less-than-significant impact on the pavement on West Jayne Avenue adjacent to the Project site.

Consistent with General Plan provisions addressing acceptable service levels, the Transportation Impact Study also evaluated delay and LOS at the four intersections along West Jayne Avenue that would be most affected by Project traffic. This analysis was conducted to determine whether Project traffic would cause nearby intersections to operate at unacceptable conditions, based on the County’s standard of LOS C. As discussed above in Section 3.18.3.1, *Methodology*, the State’s adoption of CEQA Guidelines Section 15064.3(b) in December 2018 no longer allows analyses to use the performance measures of delay/LOS in the determination of a transportation impact. For informational purposes, however, the results of the analysis show that all four study

intersections along West Jayne Avenue would operate acceptably (i.e., LOS C or better) with the addition of vehicle trips generated by the Project. Thus, to inform considerations of consistency with programs, plans, ordinances, and policies addressing the circulation system, the Project would have a less-than-significant impact with respect to the General Plan.

### **Operation and Maintenance**

Operation and maintenance activities would occur over an approximately 35-year period within the 40-year term of the requested conditional use permit. As stated previously, Project operation and maintenance would generate little traffic, with routine operations requiring weekly visits to the facility site by one or two workers in a light utility truck. During a major maintenance event, which would occur infrequently, up to 20 workers could travel to and from the Project site. The addition of such a small number of vehicles to the roadway network would not have a discernable effect on roadway operations. Therefore, Project operation would have a less-than-significant impact on study area roadways.

### **Decommissioning**

Decommissioning impacts would be short-term and temporary (approximately 1 year per phase), and would be subject to the requirements of a County-approved reclamation plan that is expected to include at least the commitments identified in the draft Reclamation Plan provided in Appendix B1. Thus, decommissioning of the Project would not result in a potential significant impact with respect to the study area's roadway conditions during peak commute hours.

**Mitigation:** Implement Mitigation Measure 3.10-2: Construction Traffic Management Plan, set forth in Section 3.10, *Hazards and Hazardous Materials*.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measure 3.10-2 would reduce the impact to a less-than-significant level because vehicle access on roadways adjacent to the Project site would be safely maintained and delays caused by additional Project-related traffic would be minimized, with an emphasis on peak-hour conditions when roadway volumes are highest.

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**Criterion b)** Whether the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

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### **Impact 3.18-2: The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). (Less-than-Significant Impact)**

Fresno County has not yet adopted thresholds of significance for VMT. Because no quantitative, qualitative, or performance level is identified, guidance criteria from both OPR's Technical Advisory and the Fresno COG's Regional Guidelines were considered for this evaluation.

### **OPR Technical Advisory on Evaluating Transportation Impacts in CEQA**

OPR's Technical Advisory provides guidance for the evaluation of a project's VMT impact using the following criteria: "The reduction of greenhouse gas emissions, the development of



multimodal transportation networks, and a diversity of land uses.” The “development of multimodal transportation networks” criterion does not apply to the Project, as the Project is a land use and not a transportation project. As discussed below, the Project would result in a less-than-significant impact with respect to VMT based on the guidance provided by the OPR Technical Advisory.

#### *Reduction of Greenhouse Gas Emissions*

The Project is an energy storage facility, and the chief aim of constructing energy storage facilities is to reduce dependence on GHG-emitting fossil fuel energy sources. The Project would provide clean renewable energy throughout the Project’s useful life. Additionally, Section 3.9, *Greenhouse Gas Emissions*, identifies “less-than-significant” impacts for construction-related and operational emissions (decommissioning emissions would be similar in scale to construction emissions). SJVAPCD’s *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* does not provide a quantitative GHG threshold, but it does support the use of the California Air Pollution Control Officers Association’s recommended interim threshold. The GHG analysis for the Project identified a quantitative threshold of significance for GHG emissions consistent with the California Air Pollution Control Officers Association’s interim threshold guidance. The analysis accounted for construction traffic emissions to determine the total emissions for the Project. Using this definitive quantitative metric yielded a less-than-significant impact. Based on this conclusion, a threshold value for VMT would likely be much higher than the Project-generated VMT. This assertion is in line with the fact that the guidance for conducting VMT analysis originated with GHG emissions reduction regulations and goals and the guidance states, “OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so” (OPR 2018).

#### *Diversity of Land Use*

Diversity of land use is a much more difficult criterion to quantify for a comparative analysis; however, the Project would expand land use diversity in the study area. During the period of the use permit, this Project would change the land use at the Project site from undeveloped agricultural land to energy storage. State law and policy reflect a current and future need to increase the California Independent System Operator–controlled electric grid’s reliance on renewable energy and to improve the reliability of energy grid overall. See Assembly Bill 2514 (Skinner, 2010), Senate Bill 350 (De León, 2015), and the California Public Utilities Commission’s February 22, 2021, ruling related to integrated resource planning (R.20-05-003) (CEC 2023; CPUC 2022). Energy storage systems, by definition,<sup>4</sup> support compliance with these laws and policies. Because the Project would contribute to compliance with these laws and policies, and because there are very few means of reducing the VMT while constructing the Project, the additional VMT would be considered less than significant.

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<sup>4</sup> The Public Utilities Code defines an *energy storage system* as “commercially available technology that is capable of absorbing energy, storing it for a specified period, and then dispatching the energy. An energy storage system may be centralized or distributed and will accomplish one or more of the following: Reduce emissions of greenhouse gases. Reduce demand for peak electrical generation. Defer or substitute for an investment in generation, transmission, or distribution assets. Improve the reliable operation of the electrical transmission or distribution grid” (CEC 2023).

### **Fresno Council of Governments Regional Guidelines**

According to the Fresno COG Regional Guidelines, a detailed transportation VMT analysis is required for all land development projects, except those that meet one of four designated screening criteria. A project that meets at least one of the screening criteria would be presumed to result in a less-than-significant VMT impact due to the project characteristics and/or location. As discussed below, the Project would meet the trip generation screening criterion, which states that a project that generates fewer than 500 ADT would result in a less-than-significant VMT impact.

As noted in CEQA Guidelines Section 15064.3(a), “For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project,” where, in accordance with guidance provided by OPR, *automobiles* refer to on-road passenger vehicles, specifically cars and light trucks (OPR 2018). For this reason, only passenger vehicles associated with workers generated by the Project are included in the following evaluation.

Project construction would require a maximum of 150 daily workers, which equates to 300 daily vehicle trips (150 inbound vehicle trips, 150 outbound vehicle trips). Trip generation for decommissioning would be similar to trip generation for Project construction. During Project operation and maintenance, up to five workers may be required during annual maintenance activities, which would generate a maximum of 10 daily vehicle trips, albeit infrequently and for a short time. Therefore, the Project would generate fewer than 500 ADT and would not result in a substantial increase in VMT that would conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). The Project would result in a less-than-significant impact with respect to VMT based on the guidance provided by the Fresno COG Regional Guidelines.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

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### **Impact 3.18-3: The Project would not 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 Impact*)**

Construction of the Project would require the delivery of heavy construction equipment and facility materials, some of which may require transport by oversize vehicles. The use of oversize vehicles during construction can create a hazard to the public by limiting motorists’ views on roadways and by obstructing spaces.

Construction-related oversize vehicle loads must comply with permit-related and other requirements of the California Vehicle Code and California Streets and Highway Code. California Highway Patrol escorts may be required at the discretion of Caltrans and Fresno County, as detailed in oversize load permits. Because of the rural nature of the study area roads and relatively low traffic volumes, construction vehicles are not anticipated to cause hazards to other roadway users traveling to and from the Project site. Furthermore, the Project would not

include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the Project site.

The Project site would be accessible, including to emergency vehicles, from West Jayne Avenue and the preexisting agricultural access roads that border and bisect the Project site. Drive-through swing gates would be constructed within the Project site at several locations to provide access. Design and construction of Project access road intersections would be required to conform with Fresno County standards (per General Plan Policies TR-A.3, TR-A.5, and TR-A.8), ensuring that corner sight distance requirements are followed (although the flat terrain is assumed to not make sight distance an issue of concern). These design and construction requirements would ensure that Project elements would not increase transportation-related hazards. The Project also would be subject to the requirements of the current Fire Code and Building Code, and Project plans would be reviewed by the Fresno County Fire Protection District (FCFPD) for appropriate access design before the issuance of building permits. Impacts associated with transportation-related hazards resulting from a Project geometric design feature or incompatible uses would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would result in inadequate emergency access.

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**Impact 3.18-4: The Project would not result in inadequate emergency access. (*Less-than-Significant Impact*)**

The Project site is located in a rural area with multiple access roads allowing adequate egress/ingress to and from the proposed energy storage facilities, the substation, the gen-tie line, and the operation and maintenance building in the event of an emergency. Additionally, as part of the Project, internal access roadway improvements would occur. Therefore, the Project would allow for adequate emergency access. The Project also would be subject to the requirements of the current Fire Code and Building Code, and Project plans would be reviewed by FCFPD for appropriate access design before the issuance of building permits.

As described under Impact 3.18-1, increased Project-related operational traffic would not result in any noticeable change to operating conditions on study area roadways. Furthermore, the Project would not require closures of public roads, which could inhibit access by emergency vehicles. During site preparation and construction of the Project, heavy construction-related vehicles could interfere with emergency response to the site or emergency evacuation procedures in the event of an emergency (e.g., slowing vehicles traveling behind the truck). However, because there are no businesses, residences, or emergency response stations in the immediate vicinity of the Project site, it is not considered likely that heavy construction-related traffic, which would be attenuated by being dispersed throughout the day, would result in inadequate emergency access.

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Chapter 2, *Project Description*, energy from the proposed energy storage system would be collected at the Project substation and transmitted to the existing PG&E-owned Gates Substation via a 0.5-mile-long gen-tie line. The new transmission poles would be constructed at the end of Phase 1, which is outside the time frame considered as part of the peak Project construction analysis presented above. Furthermore, no additional vehicle trips (workers or trucks) would be needed to operate and maintain, or to decommission PG&E infrastructure that have not already been accounted for in the preceding discussion of Project operation and maintenance and decommissioning. Therefore, the impacts on traffic described above for the energy storage facility under Impacts 3.18-2 through 3.18-5 would apply to the PG&E infrastructure component of the Project.

Regarding Impact 3.18-1, the Trip Generation-Distribution Memorandum prepared for the Project (Appendix K) does not specifically calculate the number of truck and passenger vehicle trips that would be generated by construction of PG&E Infrastructure. However, it is reasonable to assume that the number would represent a small fraction of the trips estimated for construction of the Project as a whole. For this reason, the construction of PG&E infrastructure would not result in a potentially significant impact related to Impact 3.18-1 and thus would not require the implementation of Mitigation Measure 3.10-2.

### **3.18.4 Cumulative Effects Analysis**

With respect to CEQA Guidelines Section 15064.3, the measure of VMT is by nature a cumulative measure, in that the travel demand modeling tool used by the County to calculate VMT includes all reasonably foreseeable cumulative development. Furthermore, as discussed above (Impact 3.18-3), the Project would not exceed the project-level threshold requiring a VMT analysis. Therefore, the Project would not result in a cumulative impact related to CEQA Guidelines Section 15064.3.a

As discussed above, the Project would result in a less-than-significant impact with respect to conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. With respect to emergency access, similar to the Project, all cumulative projects would be subject to the requirements of the current Fire Code and Building Code, and project plans would be reviewed by FCFPD for appropriate access design before the issuance of building permits. Therefore, cumulative projects could neither cause nor contribute to any potential significant cumulative effect regarding these considerations. The potential for the Project or an alternative to cause or contribute to a potential significant cumulative impact with respect to the remaining transportation considerations is evaluated below.

**Impact 3.18-5: The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation. (*Less than Significant with Mitigation Incorporated*)**

The potential for cumulative transportation impacts exists where multiple projects proposed in an area have overlapping construction schedules and/or project operations could result in a substantial contribution to increased traffic levels throughout the surrounding roadway network, causing travel delays or otherwise impeding access by passenger vehicles, trucks, and emergency responders. The cumulative analysis of transportation impacts includes only other projects that contribute, or could contribute, traffic to the same roadway segments (e.g., within the West Jayne Avenue corridor) as the Project. Because the volume of traffic generated would not be particularly high during site preparation and construction and decommissioning and would be substantially less during operation and maintenance activities, only the segment of West Jayne Avenue between I-5 and SR 269 would experience any appreciable increase in traffic. Therefore, the geographic scope for cumulative impacts consists of this roadway segment.

Similar to the Project analysis above, which focused on the Project's construction phase, the temporal scope for cumulative transportation impacts is limited to the construction and decommissioning phases, because activities during these times would contribute the most traffic to roadways within the geographic scope.

Past, present, and reasonably foreseeable future actions making up the cumulative scenario are identified in Figure 3.1-1 and Table 3.1-1 in Section 3.1, *Introduction to Environmental Analysis*. Past projects have been constructed and thus would contribute only ongoing operational traffic to area roadways during the Project's construction phase. The ongoing impacts associated with past projects are accounted for as part of baseline conditions for the Project, and are described in Section 3.18.1, *Environmental Setting*. That evaluation indicates that traffic on study area roadways would continue to operate acceptably under Project conditions with the implementation of Mitigation Measure 3.10-2.

Only two cumulative projects identified in Table 3.1-1 as present or reasonably foreseeable future projects could potentially interact with the Project and contribute traffic to the roadway segments defined above in the geographic scope of the cumulative transportation analysis: the Fifth Standard Solar Complex, approximately 2 miles northeast of the Project site; and the series of modifications planned at the PG&E Gates Substation, approximately 1 mile northeast of the Project site. However, based on the anticipated schedule for completion of the Fifth Standard Solar Complex (2022), it is not expected that construction activities associated with that project would overlap with construction activities for the Project. For this reason, the Fifth Standard Solar Complex is not considered further in the cumulative transportation evaluation.

The transportation analysis conducted for the Gates Dynamic Reactive Support Project estimated that a maximum of 90 daily one-way vehicle trips could be generated during that project's peak construction activity phase, which could last for up to 5 months. Because that project is located directly across the street from the Project site, all 90 daily one-way vehicle trips would use the

roadway segment identified in the geographic scope of the cumulative transportation analysis for the Project: West Jayne Avenue between I-5 and SR 269.

Direct and indirect effects of the Project on transportation are described in Section 3.18.3.2, *Direct and Indirect Effects of the Project*. As stated above, based on temporary (construction and decommissioning) and long-term (operation and maintenance) impacts of the Project on traffic conditions, West Jayne Avenue near the Project site may experience congested conditions during peak commute hours. West Jayne Avenue would still be able to accommodate a substantial amount of additional traffic given projected hourly traffic volumes and the roadway capacities. Therefore, it is possible (though not likely) that construction-generated traffic, when combined with traffic generated by construction activities associated with the Gates Dynamic Reactive Support Project anticipated to use West Jayne Avenue, could combine to cause a significant adverse cumulative impact related to travel delays or inaccessibility for passenger vehicles, trucks, and emergency responders on West Jayne Avenue. Without implementation of Mitigation Measure 3.10-2, the Project's incremental contribution to cumulative conditions could cause or contribute to a significant cumulative effect during the Project's construction period, during which the Project's incremental contribution would be cumulatively considerable.

Mitigation Measure 3.10-2 would require the Project owner to prepare a construction traffic management plan. The plan would be required to ensure that the necessary permitting of any oversize vehicles used on public roadways during these Project phases would occur, and that the County has sufficient information in advance about anticipated delivery times and vehicle travel routes to work with the owners of other projects to minimize construction traffic during peak a.m. and p.m. hours, and to coordinate as necessary with emergency services providers to assure adequate access on shared roads. With implementation of Mitigation Measure 3.10-2, the Project's incremental contribution to cumulative transportation impact would not be cumulatively considerable.

Operational traffic and decommissioning-related traffic associated with the Project would not substantially increase daily trips on study area roadways. The Project would not cause or contribute to a significant adverse cumulative impact related to traffic once construction is complete.

**Mitigation:** Implement Mitigation Measure 3.10-2: Construction Traffic Management Plan.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measure 3.10-2 would reduce the impact to a less-than-significant level because vehicle access on roadways adjacent to the Project site would be safely maintained and delays caused by additional Project-related traffic in combination with traffic generated by cumulative projects would be minimized, with an emphasis on peak-hour conditions when roadway volumes are highest.

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## 3.19 Utilities and Service Systems

This section identifies and evaluates issues related to utilities and service systems, including water, wastewater treatment or stormwater drainage, electric power, natural gas, telecommunications facilities, and solid waste. It describes the physical and regulatory settings, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input related to utilities and service systems (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on the Project-specific water supply assessment prepared on the Applicant’s behalf (**Appendix L**, *Water Supply Assessment*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this assessment and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.19.1 Setting

#### 3.19.1.1 Study Area

The study area for this analysis includes the service areas of the utility or service systems that would provide service to the Project site.

#### 3.19.1.2 Environmental Setting

##### ***Water Supply Services***

The Project site is located within the area served by Westlands Water District (WWD). WWD is the largest agricultural water district in the United States, providing water for agricultural, municipal, and industrial uses in western Fresno and Kings counties, including the area surrounding the Project site. In the center of the southern half of the Project site are underground water, oil, and gas pipelines (Key Energy Storage, LLC 2021a). WWD does not deliver potable water for human consumption and is not considered a public water system (WWD 2021a). WWD manages a combination of local and imported surface water supplies and local groundwater to serve its customers.

##### **Surface Water**

Surface water supplies are imported from the Central Valley Project (CVP). However, WWD is “low in the federal project’s pecking order and is among the first cut in times of shortage. Since 1990, it has received its full allotment in only four years” (Boxall 2019). According to WWD, it expects to receive only approximately 50 percent of its contractual water supply in an average water year (WWD 2023). WWD’s water supply ranged between 800,000 and 1.4 million acres of water between 1988 and 2021, with 800,000 acres of water supply during the 2020–2021 year (WWD 2021b).

### **Groundwater**

WWD does not supply groundwater to farmers or control groundwater pumping (individuals pump their own groundwater). WWD does, however, survey the static water levels in the wells and the water quality and quantity of the pumped groundwater, as part of the Groundwater Management Plan completed under provisions of Assembly Bill 3030 in 1996 (see Section 3.11, *Hydrology and Water Quality*, for details). An existing groundwater well is located in the northwest portion of the Project site.

### **Wastewater Services**

Wastewater service is not currently provided to the Project site. In Fresno County, rural areas such as the Project site generally use on-site septic systems for wastewater treatment and disposal. Wastewater from the Project's operation and maintenance (O&M) building would be discharged into a septic tank, if one is installed, where most of the solids would be removed. The septic tank would be a maximum of 1,500 gallons and would be designed and constructed according to County requirements. If no septic system is installed, the Project would be served by portable toilets to be serviced and maintained by an outside vendor.

### **Stormwater**

The Project site is located within the area governed by the Central Valley Regional Water Quality Control Board (Region 5), which oversees implementation of the *Water Quality Control Plan for the Tulare Lake Basin* (Basin Plan). Details about the Basin Plan are provided in Section 3.11, *Hydrology and Water Quality*. Water conveyance infrastructure on the Project site consists of agricultural ditches in some locations; other than these ditches, no drainage facilities that have connectivity to any natural water features are located on-site. As explained in the Basin Plan, direct precipitation typically percolates into valley groundwater if not lost through consumptive use, evapotranspiration, or evaporation (Central Valley RWQCB 2018). When adequate rainfall occurs on the Project site to produce runoff, it likely drains from the Project site and/or percolates directly into the ground after a relatively short travel distance. No stormwater drainage infrastructure is located on-site. However, as described in Chapter 2, *Project Description*, the Project would include on-site detention basins to retain stormwater and prevent runoff. The basins would be expected to remain dry most of the year, except during or after rain events. The Project site has generally flat topography and is drainage impaired.

### **Electricity and Natural Gas**

PG&E is an investor-owned utility company that provides electricity and natural gas supplies and services throughout a 70,000-square-mile service area that includes western Fresno County and the Project site (PG&E 2022). The PG&E Gates Substation is located northeast of the Project site, a small substation is located immediately adjacent to the northwest Project site boundary, an electrical gen-tie line runs north to south along the northwest side of the Project site, and two high-voltage transmission lines run north to south along the entire east side of the Project site. See Section 3.7.1.2, *Environmental Setting*, in Section 3.7, *Energy*, for additional details.

### **Telecommunications Facilities**

Communications in the study area include cellular telephone service provided by AT&T and multiple cable television and internet service providers.

### **Solid Waste Management**

The Fresno County Resources Division is responsible for solid waste coordination and disposal activities within the county. The division has a number of facilities that accept solid waste in the vicinity of the Project site. The nearest landfill to the Project is the Avenal Regional Landfill (Avenal Landfill), approximately 10 miles south of the Project site. The Avenal Landfill accepts solid wastes and construction/demolition wastes, as well as special wastes upon approval (Avenal Landfill 2022). The Avenal Landfill has a remaining capacity of 28,900,000 cubic yards and is expected to reach its permitted capacity in 2056 (CalRecycle 2022b). The next nearest landfill is the American Avenue Landfill, owned and operated by Fresno County and located in the city of Kerman, approximately 36 miles northeast of the Project site (Fresno County 2021). The American Avenue Landfill is permitted to receive 2,200 tons of waste per day; it has a remaining capacity of approximately 29,358,535 cubic yards and is expected to reach its permitted capacity in 2031 (CalRecycle 2022a).

The Project site is located within the Mid Valley Disposal Company's service area, which has multiple transfer stations: the Kerman Material Recovery Facility Transfer Station, Fresno Material Recovery Facility Transfer Station, Kingsburg Transfer Station, and Coalinga Transfer Station (Mid Valley Disposal 2021). The Shaver Lake Transfer Station is operated in partnership with Fresno County, Granite Solid Waste, and the U.S. Forest Service (Fresno County 2021).

### **3.19.1.3 Regulatory Setting**

#### **Federal**

No federal regulations pertaining to utilities and service systems apply to the Project.

#### **State**

##### **Water**

##### **Sustainable Groundwater Management Act**

The Sustainable Groundwater Management Act of 2014 (SGMA) (Water Code Section 10723) authorizes local sustainable management of groundwater resources under state oversight. The SGMA empowers qualified local agencies, municipalities, and special districts to establish a governance framework by forming groundwater sustainability agencies (GSAs) to manage groundwater basins sustainably to bring groundwater basins to balanced levels of pumping and recharge. GSAs must develop, adopt, and implement groundwater sustainability plans (GSPs) for medium- and high-priority groundwater basins in California. The Project site is in the Westside Subbasin, which is a high-priority groundwater subbasin designated by the California Department of Water Resources (DWR) as critically overdrafted. The GSA for the Westside Subbasin is WWD (WWD 2022). See Section 3.11.1.3, *Regulatory Setting*, in Section 3.11, *Hydrology and Water Quality*, for additional details.

### Executive Order N-7-22

In response to extreme and expanding drought conditions in California, Governor Gavin Newsom issued Executive Order N-7-22 in March 2022. Among other water resource considerations, Executive Order 7-N-22 prohibits counties, cities, and other public agencies from approving permits for either the construction of new groundwater wells or the alteration of existing wells that are within a SGMA-regulated medium or high-priority groundwater basin unless all of the following occurs:

- The GSA managing the basin verifies in writing that the proposed groundwater extractions:
  - Would be consistent with any applicable GSP.
  - Would not decrease the likelihood of achieving a sustainability goal for the basin.
- The well-permitting agency determines that extraction of groundwater from the proposed or modified well is not likely to do either of the following:
  - Interfere with the production and functioning of existing nearby wells.
  - Cause subsidence that would adversely affect or damage nearby infrastructure.

If a new well is constructed or an existing well is altered to serve Project water demand, then Executive Order N-7-22 would apply. Because the Westside Subbasin is defined as a high-priority groundwater basin, WWD (as the GSA for the groundwater basin) would need to verify that stated conditions are met with respect to groundwater and that the new well would be consistent with the GSP before Fresno County could permit this construction.

### California Well Standards Ordinance

DWR Bulletin 74 (including the combined water well standards in Bulletins 74-81 and 74-90) establishes the minimum standards governing California water wells to protect California's groundwater quality (DWR 2023a, 1991, 1981). Local jurisdictions like Fresno County have the authority to adopt, administer, and enforce standards that meet or exceed the Bulletin 74 standards (DWR 2023a). As of the issuance of this Draft EIR, DWR is in the process of updating Bulletin 74; publication of updated final standards is anticipated in fall 2023 (DWR 2023b).

### Wastewater

#### Septic System Requirements of the California Plumbing Code

Title 24, Part 5 of the California Code of Regulations regulates plumbing systems. Based on the American National Standard 2015 Uniform Plumbing Code, the California Plumbing Code attempts to minimize public risk by specifying technical standards of design, materials, workmanship, and maintenance for plumbing systems, including septic systems.

## **Stormwater**

### **National Pollutant Discharge Elimination System Construction General Permit**

Construction projects disturbing 1 acre or more of land (as proposed for the Project site) are subject to the permitting requirements of the National Pollutant Discharge Elimination System's General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) and must apply for coverage under the Construction General Permit. For all new projects, applicants must electronically file permit registration documents using the Stormwater Multiple Applications and Report Tracking Systems (SMARTS) and must include a notice of intent (NOI), risk assessment, site map, and storm water pollution prevention plan (SWPPP) to be covered by the General Construction Permit before beginning construction (State Water Board 2022). The risk assessment and SWPPP must be prepared by a State-Qualified SWPPP Developer. See Section 3.11, *Hydrology and Water Quality*, for a more detailed discussion of water quality and SWPPP requirements. The Project would apply for coverage under the Construction General Permit and include implementation of a SWPPP.

## **Electricity and Natural Gas**

### **Government Code Requirements for Utility Notification**

Government Code Section 4216 et seq. requires owners and operators of underground utilities to become members of, participate in, and share the costs of a regional notification center. Underground Service Alert North (USA North) is the notification center for the Project area. USA notifies utility providers with buried lines within 1,000 feet of the excavation, and those providers are required to mark the specific location of their facilities before excavation. The code also requires excavators to probe and expose existing utilities, in accordance with state law, before using power equipment. USA North receives planned excavation reports and transmits the information to all participating members that may have underground facilities at the location of excavation (USA North 2018).

### **California Public Utilities Commission General Order 131-D**

The California Public Utilities Commission (CPUC) regulates services and utilities and assures California's access to safe and reliable utility infrastructure and services. The essential services regulated include electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC implements CEQA for utility construction by PG&E and the other public utilities under its jurisdiction, and regulates the location and relocation of power lines by investor-owned utilities, such as PG&E. Section XIV B. of General Order 131D clarifies that local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to CPUC jurisdiction (CPUC 2021).

## **Solid Waste Management**

### **California Integrated Waste Management Act**

When enacted in 1989, the Integrated Waste Management Act (Public Resources Code Section 40050 et seq.) set into place a comprehensive statewide system of permitting, inspections, and maintenance for solid waste facilities, and authorized local jurisdictions to impose fees based

on the types and amounts of waste generated. The act also required all California cities, unincorporated portions of counties, counties, and approved regional solid waste management agencies to divert a minimum of 25 percent of solid waste from landfills by 1995 and 50 percent by 2000. Cities and counties were required to maintain the 50 percent diversion past 2000. *Diversion* includes waste prevention, reuse, and recycling. The act resulted in the creation of the California Integrated Waste Management Board, now known as the California Department of Resources Recycling and Recovery (CalRecycle). CalRecycle is under the umbrella of the California Environmental Protection Agency and is responsible for implementation of the Integrated Waste Management Act. Under the act, jurisdictions must submit solid waste planning documentation to CalRecycle.

#### California Code of Regulations Title 22, Division 4.5

In Title 22 of the California Code of Regulations, Division 4.5 includes environmental health standards for the identification, collection, transport, disposal, and recycling of hazardous waste. The *term hazardous waste* is defined in Sections 66260.10 and 66261.3 of the regulations and includes acutely hazardous waste, extremely hazardous waste, non-Resource Conservation and Recovery Act (RCRA)<sup>1</sup> hazardous waste, RCRA hazardous waste, special waste, and universal waste.

*Universal wastes* are wastes commonly produced by households and businesses including televisions, computers and other electronic devices, batteries, mercury-containing equipment, lamps, cathode ray tubes, and aerosol cans (22 Cal. Code Regs. Section 66273.9 et seq.). The requirements for universal waste are referred collectively to *California's Universal Waste Rule*. California's Universal Waste Rule allows businesses and individuals to transport, handle, and recycle universal wastes differently than for most hazardous wastes: "The more relaxed requirements for managing universal wastes were adopted to ensure that they are managed safely and are not disposed of in the trash" (DTSC 2010). Requirements for universal wastes include recycling, recovery, the return of spent items to the manufacturer, or disposal at an appropriately permitted facility.

Division 4.5 of Title 22 also provides restrictions and standards relevant to generators of hazardous waste; transporters of hazardous waste; owners and operators of hazardous waste transfer, treatment, storage, and disposal facilities; recyclable hazardous wastes; and military munitions among other things.

#### Title 24 California Code of Regulations

The California Green Building Standards Code (also known as the CALGreen Code) (24 Cal. Code Regs. Part 11) applies to new construction and demolition associated with a construction permit. It requires covered projects to recycle and/or salvage for reuse at least 65 percent of their nonhazardous construction and demolition waste or to meet a local construction and demolition waste management ordinance, whichever is more stringent (CalRecycle 2023).

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<sup>1</sup> RCRA, enacted in 1976, is the United State's principal federal law governing the disposal of solid waste and hazardous waste (Title 42 United States Code Section 6901 et seq.).

## Title 27 California Code of Regulations

Title 27 defines regulations for the treatment, storage, processing, and disposal of solid waste. The State Water Resources Control Board (State Water Board) maintains and regulates compliance with Title 27. The Project's compliance would be enforced by the Central Valley Regional Water Quality Control Board (Region 5).

### **Local**

#### **Fresno County General Plan**

The Fresno County General Plan's Public Facilities and Services Element contains the following goals and policies related to utilities and service systems that are relevant to the Project (Fresno County 2000):

##### General Public Facilities and Services

**Goal PF-A:** To ensure the timely development of public facilities and to maintain an adequate level of service to meet the needs of existing and future development.

**Policy PF-A.4:** The County shall encourage the placement of irrigation canals and utility lines underground as urban residential, commercial, and industrial development takes place.

##### Water Supply and Delivery

**Goal PF-C:** To ensure the availability of an adequate and safe water supply for domestic and agricultural consumption.

**Policy PF-C.3:** To reduce demand on the County's groundwater resources, the County shall encourage the use of surface water to the maximum extent feasible.

**Policy PF-C.19:** The County shall discourage the proliferation of small community water systems.

**Policy PF-C.20:** The County shall not permit new private water wells within areas served by a public water system.

**Policy PF-C.25:** The County shall require that all new development within the County use water conservation technologies, methods, and practices as established by the County.

##### Wastewater Collection, Treatment, and Disposal

**Goal PF-D:** To ensure adequate wastewater collection and treatment and the safe disposal of wastewater.

**Policy PF-D.6:** The County shall permit individual on-site sewage disposal systems on parcels that have the area, soils, and other characteristics that permit installation of such disposal facilities without threatening surface or groundwater quality or posing any other health hazards and where community sewer service is not available and cannot be provided.

### Storm Drainage and Flood Control

**Goal PF-E:** To provide efficient, cost-effective, and environmentally-sound storm drainage and flood control facilities that protect both life and property and to divert and retain stormwater runoff for groundwater replenishment.

**Policy PF-E.11:** The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.

**Policy PF-E.13:** The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.

**Policy PF-E.14:** The County shall encourage the use of retention-recharge basins for the conservation of water and the recharging of the groundwater supply.

**Policy PF-E.21:** The County shall require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.

### Landfills, Transfer Stations, and Solid Waste Processing Facilities

**Goal PF-F:** To ensure the safe and efficient disposal or recycling of solid waste generated in the county in an effort to protect the public health and safety.

**Policy PF-F.1:** The County shall continue to promote maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally-safe transformation of wastes.

**Policy PF-F.4:** The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.

### Utilities

**Goal PF-J:** To provide efficient and cost-effective utilities that serve the existing and future needs of people in the unincorporated areas of the county.

**Policy PF-J.1:** The County shall encourage the provision of adequate gas and electric, communications, and telecommunications service and facilities to serve existing and future needs.

### Fresno County Well Permitting Program

Within their respective jurisdictions, WWD (as the relevant GSA) regulates the *use* of water wells while the County permits the *installation* of wells. In this capacity, the County issues permits to construct new wells; reconstruct, repair or deepen existing wells; and destroy abandoned wells. The County enforces the provisions of the California Well Standards Ordinance and the construction standards set forth in the California Well Standards (Bulletins 74-81 and 74-90), Fresno County General Plan Policy PF-C (specifically PF-C.19 and PF-C.20), and provisions of Title 14 of the Fresno County Ordinance Code, including Chapter 14.04 (Well Regulations– General Provisions) and Chapter 14.08 (Well Construction, Pump Installation and Well Destruction Standards). Well drilling contractors must possess an active C-57 Well Contractors License (Fresno County 2023).



### **Fresno County Construction and Demolition Debris Recycling Program**

The Fresno County Construction and Demolition (C&D) Debris Recycling Program is intended to assist the County to comply with diversion of solid waste from California landfills pursuant to the California Integrated Waste Management Act (discussed above), and to provide builders with a way to document waste reduction and diversion requirements included in the California Green Building Standards Code. The County C&D Debris Recycling Program contains the following requirements related to utilities that would apply to the Project during the construction and decommissioning phase:

- Complete and submit a waste management plan for recycling a minimum of 65 percent of all nonhazardous waste, scrap, and debris generated for the scope of work covered by the building permit.
- During construction/demolition, collect data for the project's Waste Log, and ensure that all subcontractors are familiar with the waste management plan and have signed the Acknowledgement Form. Keep all weight/gate tags, receipts, and invoices for services to support the data on the Waste Log.
- After the project is complete and 14 days before the project's final inspection, submit the completed Acknowledgement Form(s), Waste Log, and all supporting documents.

### **3.19.2 Significance Criteria**

The Project would result in a significant impact related to utilities and service systems if it would:

- a) 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;
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

### **3.19.3 Direct and Indirect Effects**

#### **3.19.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of these, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and

Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to the analysis below.

### 3.19.3.2 Methodology

The evaluation of impacts related to utilities and service systems is based on a review of existing laws, regulations, plans, policies, and other documents that address such systems in the study area. In this context, the analysis considers potential Project-caused changes in service levels or capacity of the utilities and service systems that could result in adverse impacts on the physical environment. In determining the level of significance of Project-caused changes, the analysis assumes that the Project would comply with all applicable laws.

### 3.19.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether 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.

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The Project would use no natural gas for construction, operation and maintenance, or decommissioning and would not result in the relocation or construction of any new or expanded natural gas facilities that would cause an adverse environmental effect. Therefore, the Project would have no impact on natural gas services. (*No Impact*)

**Impact 3.19-1: The Project would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects. (*Less-than-Significant Impact*)**

#### Water

It is anticipated that the Project's water supply would be provided by WWD, delivered to the Project site by truck. However, water also could be provided via groundwater through a new or existing well. If on-site groundwater is accessed, then water would be pumped into 2,000- to 4,000-gallon water trucks and stored in 12,000-gallon water storage tanks or towers up to 16 feet tall. These tanks would be on the Project site during construction and would be removed after the completion of construction. If the existing well (located on the northernmost Project site parcel) is not used to supply water for the Project, the well would be capped in accordance with Fresno County's requirements.

During construction, water would be used for dust suppression and earthwork. Annual water use during construction is anticipated to be 153 acre-feet per year for the lithium-ion storage option and a maximum of 171 acre-feet per year for the lithium-ion and iron-flow option. Total water use during construction is estimated to be 560 acre-feet for the lithium-ion storage option and 632.1 acre-feet for the lithium-ion and iron flow option.

Water demand associated with operation and maintenance is estimated to be 1,036 gallons per year, assuming 148 total staff days per year as identified in the Project's water supply assessment (Appendix L). Potable water for the O&M building kitchen and restrooms would be delivered by a local commercial provider and stored on-site. Non-potable water may also be used for fire suppression, as necessary.

Similar to the construction water demands, during decommissioning, water would be used for dust suppression and earthwork. Decommissioning water demands would likely be less than those estimated for construction, and would likely not need to be phased, as stated in the water supply assessment. As with construction, water would either be delivered to the Project site by truck from an off-site source or via groundwater through a new or existing well, pending approvals.

If a new well is to be constructed, then drilling would disturb vegetation and on-site soils that could, unless properly managed, affect stormwater runoff or be affected by spills or leaks incidental to the normal operation of drilling equipment. Without proper controls on the rate, timing, and location of withdrawals, Project-related groundwater extraction could affect water levels in neighboring wells. However, compliance with applicable laws, including those overseen and enforced by the County related to well installation and by WWD related to well use, would ensure that impacts on water service from a new groundwater well source would be less than significant.

Given the Project's water demand from construction, operation and maintenance, and decommissioning and the Project's potential water sources, the Project would not require the construction of new water facilities, the construction or relocation of which could cause significant environmental effects. The resulting impacts would be less than significant.

### **Wastewater**

Because the site is in a rural location and outside of a municipal sphere of influence, no wastewater service is currently provided to the Project site. As needed, such as during construction and decommissioning, portable restroom facilities would be provided and serviced by licensed providers. During Project operation and maintenance, restrooms and a kitchen would be located within the O&M building. Wastewater could be discharged into a 1,500-gallon septic tank, if one is installed. The septic tank, if installed, would be designed and constructed consistent with applicable state and County requirements. If no septic system is installed, the Project would utilize portable toilets serviced and maintained by an outside vendor. Because the Project would not require the construction of new wastewater facilities, the construction of which could cause significant environmental effects, the resulting impact would be less than significant.

### **Stormwater**

The Project would require installation of stormwater facilities consisting of a drainage swale and two detention basins to retain stormwater, prevent runoff, and reduce erosion and sedimentation. Other than these proposed stormwater facilities, no additional stormwater facilities are proposed or would be required. These stormwater facilities would be designed to meet State Water Board and Fresno County requirements (Key Energy Storage, LLC 2021b). Compliance with applicable requirements would ensure that associated impacts would not be significant. Because the Project

would not require the construction of new stormwater facilities beyond those analyzed as part of the Project, the construction of which could cause significant environmental effects, the resulting impact would be less than significant.

### **Electricity**

The Project would use electrical service from PG&E that would be provided through new overhead pole connections to PG&E's existing infrastructure. Overhead easements would be required where the gen-tie line crosses West Jayne Avenue and the adjacent PG&E property. The connections and associated ground disturbance proposed as part of the Project could result in potential environmental impacts, as discussed in the various resource sections of this EIR. However, the Project would not result or require the construction or relocation of new or expanded electric facilities beyond those analyzed as part of the Project. For this reason, impacts associated with new or expanded electrical facilities would be less than significant.

### **Telecommunications Facilities**

As described in Chapter 2, *Project Description*, the Project would be operated and monitored through a supervisory control and data acquisition (SCADA) system with the support of up to seven on-site personnel. SCADA is a system of software and hardware elements that allow companies such as the Applicant to control on-site processes locally or at remote locations; to monitor, gather, and process real-time data; interact directly with devices such as energy storage system sensors through human-machine interface software; and record events into a log file. It provides an information technology function that requires cable internet or Wi-Fi service. Because the telecommunications facility service demand of the proposed SCADA would be no more than the demand of other, similar commercial uses, its installation and use would generate a less-than-significant impact.

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**Criterion b)** Whether the Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.

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### **Impact 3.19-2: The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (*Less than Significant with Mitigation Incorporated*)**

A Project-specific water supply assessment (Appendix L) was prepared to demonstrate the availability of water supply during normal, single dry, and multiple dry years (20-year projection), in addition to the area's existing and planned future uses. The Project would introduce a temporary water demand during construction, O&M, as well as decommissioning. During construction, water requirements for dust suppression and other construction purposes would total approximately 560 acre-feet over 6.3 years for the lithium-ion storage option, or 632.1 acre-feet over 5.7 years for the lithium-ion and iron flow option.

Once operational, the Project's proposed O&M building would include a staff restroom, kitchen, and associated appurtenances. At this stage, the Project would demand 1,036 gallons of water

annually (Appendix L), which equates to 0.003 acre-feet per year. Overall, the Project would reduce current and future local water demand, as the agricultural irrigation on the site's northern parcel would cease with Project implementation. Historically, this parcel has been cultivated in irrigated orchard crops (citrus and almonds). Based on the WWD GSP, the water demand for a given farm is first met by uptake from the groundwater as crops' roots intersect the water table, and then demand is met by groundwater pumping (WWD 2022). In total, 632,130 acre-feet of groundwater were pumped from the Westside Subbasin in the years 2017–2021, nearly all of which supported similar agricultural uses (Appendix L).

Because the northern parcel is in irrigated agriculture under existing conditions, and because this irrigation would cease with the Project, the Project would reduce total water demand across the site. Thus, implementation of the Project would result in an incremental decrease in total water demand. The water supply assessment concluded that the construction and operational water demands of the Project can be met under average water year, single-dry water year, and multiple-dry water year scenarios over the next 20 years through various sources. Therefore, a less-than-significant impact on water supply would result over the next 20 years.

However, the requested conditional use permit would have a term of 40 years (see Section 2.5.1, *Project Phasing*). For the purposes of this analysis, operation and maintenance phase water demand during the second 20-year period would be the same during the first, i.e., 0.003 acre-feet per year, and decommissioning water requirements are assumed to be similar to those required during construction (approximately 300 acre-feet). The WSA prepared for the Project (Appendix L) does not address the availability of the water supply for the latter portion of the operation and maintenance phase or at the time the Project would be decommissioned. Therefore, Mitigation Measure 3.19-2: Determine Future Water Supply Availability would be required.

#### **Mitigation Measure 3.19-1: Determine Future Water Supply Availability**

Eighteen (18) years after the issuance of the conditional use permit, the Project owner shall identify and provide an analysis to the County that the water supply source(s) proposed for use during the remaining operation, maintenance, and decommissioning activities are sufficient and will not impede sustainable groundwater management of the basin. If sufficient water supplies are not available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years, then Project decommissioning would be initiated.

**Significance after Mitigation:** Less than Significant. Implementation of this mitigation measure would ensure that future water supply needed for operation, maintenance and decommissioning would be available by requiring identification of water supply prior to decommissioning activities.

**Criterion c)** Whether the Project would 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.

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**Impact 3.19-3: The Project would 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 Impact*)**

The Project site is in a rural area outside of a municipal wastewater sphere of influence. Therefore, it is anticipated that portable restroom facilities would be provided for construction workers during construction and perhaps also during the operation and maintenance and decommissioning phases. The contractor(s) selected to construct and decommission the Project would provide and manage the maintenance of these portable facilities.

In lieu of or in addition to portable restroom facilities, the Project may include installation, operation, and maintenance of an on-site wastewater system or septic tank near the proposed O&M building. Septic facilities would be maintained by a local service provider. While the Project would include the addition of these on-site facilities, such facilities would be managed and maintained consistent with state and County requirements to ensure that the amount of sanitary waste generated would not exceed the capacity and availability of private licensed providers within the region. Therefore, the resulting impact would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would 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.

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**Impact 3.19-4: The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (*Less-than-Significant Impact*)**

Most parts of the Project's proposed systems are recyclable, and components of the energy storage system and on-site substation would be recycled when the Project's operating life is over, as described in **Appendix B1, Reclamation Plan**.

During construction, debris such as paper, cardboard, wood, plastics, and construction equipment packaging would be the main source of solid waste. Based on similar projects, it is reasonable to assume that approximately 22 cubic yards of solid waste per week could be generated during the Project's construction phase. A minimum of 50 percent of Project construction waste would be recycled. Because the Project would be subject to the CALGreen Code and the Fresno County C&D Debris Recycling Program, which is intended to assist the County in complying with California's solid waste reduction goals, materials such as metal and wood would be separated

from the waste stream and recycled to the extent feasible within the established standards. Non-recyclable, non-hazardous construction waste would be placed into commercial trash dumpsters located on-site. Dumpsters would be collected periodically and transferred to a landfill, such as the American Avenue Landfill or Avenal Landfill.

During operation, the Project would generate a very small amount of solid waste from ordinary staff O&M uses. The solid waste generated would be removed from the site by a commercial garbage service for proper disposal. The small amount of waste generated during ordinary O&M of the Project would have no impact on haulers' capacity to properly dispose of the waste generated because it would remain within volumes anticipated in the facilities' planning assumptions for commercial customers.

During decommissioning, aboveground structures and belowground electrical conduit, foundations, and infrastructure would be removed. The steel and aluminum battery enclosures, as well as concrete foundations, would be dismantled and recycled. Any fuel, hydraulic fluids, and oils would be transferred to a tanker truck and properly disposed of or recycled. Hazardous waste such as lubricants, paints, and solvents would be kept in a locked utility structure for containment. The Project site would be restored to its original agricultural condition, as described in Appendix B1, *Reclamation Plan*.

As described in Section 3.19.1.2, *Environmental Setting*, the Avenal Landfill has a remaining capacity of 28,900,000 cubic yards and is expected to reach its permitted capacity in 2056. The next closest landfill to the Project site, the American Avenue Landfill, is permitted to accept 2,200 tons of waste per day and has a remaining capacity of approximately 29,358,535 cubic yards.

The construction waste generated by the Project is estimated to be 22 cubic yards per week, or a total of 2,112 cubic yards over the phased construction period. This amount of solid waste constitutes a small proportion (approximately 0.007 percent) of the Avenal Landfill's remaining capacity. If the Project were decommissioned after the closure of the Avenal Landfill, such waste would be hauled to another approved facility, such as the American Avenue Landfill. Even if the total amount of construction waste were to be delivered to the American Avenue Landfill in a single day, there would be no capacity exceedance. For these reasons, the Project would not generate waste such that solid waste reduction goals would be impaired, or that state or local standards would be exceeded. Therefore, the impact would be less than significant.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

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The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Accordingly, no impact would result. (*No Impact*)

As identified in Section 3.19.3.1, *Applicant-Proposed Measures and Design Features*, the Applicant has committed to implementing specific measures to ensure compliance with applicable regulatory standards regarding the use, transport, storage, and disposal of hazardous materials. Compliance with these requirements would avoid or reduce potential adverse environmental impacts, including those related to human health, fire risk, and solid waste. The Project would be required to comply with the CALGreen Code and the Fresno County C&D Debris Recycling Program, which is intended to assist the County in maintaining compliance with the State's solid waste reduction goals.

As detailed in the Project's reclamation plan (Appendix B1), most of the waste generated during construction and demolition would be non-hazardous. Waste would be recycled when feasible and non-recyclables would be placed into dumpsters located on-site. A minimal amount of waste would be generated during O&M activities and during decommissioning and site reclamation. Most of the waste in these decommissioning phases would be non-hazardous, and materials would be dismantled, recycled, or sold. Project construction and decommissioning would comply with the Fresno County C&D Debris Recycling Program, diverting, repurposing, or recycling non-hazardous waste to comply with local requirements. At the end of the Project's life span, the steel, aluminum, and concrete components of the energy storage system and substation would be recycled (Appendix B1). Batteries from the energy storage system may include lithium ion, which degrades but can also be recycled or repurposed. Electrical conduit and other structures and materials more than 4 feet underground would be decommissioned and abandoned in place. Metal and scrap equipment and parts that do not have free-flowing oil would be removed and salvaged through local recyclers. It is anticipated that oils, including transformer oil, would be disposed of at the proper facilities and batteries would be recyclable. Therefore, the Project would comply with regulatory standards and no impact would occur.

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. As noted previously, the minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation would not require any ground disturbance. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above. Incremental contributions of the PG&E infrastructure work to the overall impact conclusions related to utilities and service systems would be less than significant.

**Mitigation:** None required.



### 3.19.4 Cumulative Effects Analysis

**Impact 3.19-5: The Project would not cause or contribute to any significant adverse cumulative impact to utilities and service systems. (*Less-than-Significant Impact*)**

The geographic area within which the Project would cause impacts that could combine with the incremental impacts of other projects to cause or contribute to significant cumulative effects includes the service areas of the utilities and other service providers that serve the Project site. The Project could contribute impacts related to utilities and services systems from the point when on-site activities begin and would conclude when on-site activities are finished at the end of the decommissioning and reclamation phase.

As analyzed in Section 3.19.3, *Direct and Indirect Effects*, the Project would cause a less-than-significant impact related to utilities and service systems, including water, wastewater, stormwater, electricity, telecommunication facilities, and solid waste systems. The incremental, Project-specific impacts related to these utilities and service systems could combine with the incremental impacts of the past, present, and reasonably foreseeable future projects identified in Section 3.1.3, *Cumulative Effects Approach*. For example, the Fifth Standard Solar Project, the PG&E Gates Substation, and a second, smaller substation are in operation near the Project site, and multiple other projects that are in operation in the relevant service areas (e.g., the RE Tranquillity, RE Adams East, Luna Valley, and Little Bear solar projects) could be causing ongoing impacts that would combine with the incremental impacts of the Project. Proposed and reasonably foreseeable future projects that also could contribute to the cumulative demand for utilities and other service systems include the remaining projects summarized in Section 3.1.3, such as the PG&E Gates 500 kV Dynamic Reactive Support Project that would be implemented at the Gates Substation.

#### **Water and Water Supplies**

The additional water infrastructure needed to support this Project could include installation, operation, maintenance, and closure of a well. The laws, regulations, and ordinances governing well construction and use that would apply equally to all cumulative projects establish standards with cumulative conditions in mind. The Project's less-than-significant incremental impacts due to its water demand and its proposed construction of new water facilities would combine with the incremental contributions of other cumulative projects but would not result in a significant adverse cumulative environmental effect. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

The Project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Given regulatory oversight at the state and local levels, and based on the analysis presented above and in the Project's water supply assessment (Appendix L), the subbasin has the capacity to fulfill the needs of the Project and other projects in the region during normal, dry, and high-drought years. Accordingly, even though the Project may encounter lower groundwater tables and reduced rainfall in some years, WWD ensures that water demand can be met for the region by obtaining water supplies through short- and long-term purchases and transfers, in addition to the water

table. Thus, the Project's incremental contribution to any significant impact related to water supply would be less than significant. Further, because the northernmost Project site parcel may yield a decrease in water demand as it shifts from irrigated agricultural use to energy use consistent with the Project, the Project could have a beneficial effect on cumulative water supply.

**Mitigation:** None required.

### **Wastewater and Wastewater Treatment**

The additional wastewater infrastructure needed to support this Project could include the installation, operation, maintenance, and removal of a septic system. The laws, regulations, and ordinances governing septic system construction that would apply equally to all cumulative projects that also include a septic system (and the long-term or master plans that govern wastewater treatment facilities in the county) have been established with cumulative conditions in mind. The Project's less-than-significant incremental impacts due to its wastewater demand and its potential use of a septic system would combine with other cumulative projects' incremental impact contributions, but would not exceed the capacity and availability of private licensed providers within the region and thereby result in a significant adverse cumulative environmental effect. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Stormwater**

New stormwater infrastructure proposed to support the Project includes a drainage swale and two detention basins to retain stormwater, prevent runoff, and reduce erosion and sedimentation. Similar stormwater infrastructure is required for all new development in the unincorporated Fresno County area to minimize adverse environmental impacts of development on neighboring properties. The Project's less-than-significant incremental impacts due to the construction of new on-site stormwater management infrastructure would combine with other cumulative projects' incremental impacts, but generally would be positive and thus would not result in a significant adverse cumulative environmental effect. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Electricity**

The Project would require construction, operation, maintenance, and decommissioning of the energy storage infrastructure described in Chapter 2, *Project Description*, and installation, operation, and maintenance of the PG&E infrastructure. The environmental impacts of the Project's electricity-related infrastructure have been analyzed on a resource-by-resource basis in this EIR. The Project's less-than-significant incremental impacts related to electricity service would combine with other cumulative projects' incremental impacts, but they would not result in a significant adverse cumulative environmental effect given the limited nature of the work and the overall benefit to the electricity system. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Telecommunications**

The Project would use a SCADA system to support on-site or remote management of the energy storage system. SCADA systems are such common commercial and industrial installations that they have been described as “the backbone of many modern industries, including: Energy, food and beverage, manufacturing, oil and gas, power, recycling, transportation, water and waste water, and many more” (Inductive Automation 2023). The Project’s incremental impact on telecommunications facilities, combined with the incremental impacts of other cumulative projects, would not result in a significant adverse cumulative effect, and in any event, the Project’s less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Solid Waste and Solid Waste Standards**

Potential cumulative impacts on landfill capacity would affect the area served by the American Avenue and Avenal landfills. As noted in the regulatory section discussion of the Integrated Waste Management Act, Fresno County is required to identify an area for the location of new solid waste transformation or disposal facilities if it determines that the existing landfill capacity will be exhausted within 15 years. It is anticipated that in compliance with the Integrated Waste Management Act, Fresno County would have at least 15 years of remaining solid waste (landfill) capacity at the time of Project decommissioning and site reclamation, and thus that Project-caused solid waste could be disposed of within the limits of available permitted capacity. The same Fresno County C&D Debris Recycling Program waste diversion and recycling requirements that apply to the Project would also apply to other cumulative projects. With the assumed compliance with the Fresno County C&D Debris Recycling Program’s requirements, the solid waste capacity of existing landfills is not expected to be exceeded, and the Project’s incremental contribution to capacity concerns would not be a cumulatively considerable contribution to any significant cumulative effect.

**Mitigation:** None required.

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## 3.20 Wildfire

This section identifies and evaluates issues related to wildfire, including the potential to impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to wildfire (**Appendix A, Scoping Report**).

### 3.20.1 Setting

*Wildfire*, defined as an unplanned, unwanted wildland fire (Government Code Section 51177), exists in Fresno County, as in all parts of California. Wildland fires affect grass, forest, and brushlands, as well as any structures on these lands, and create potential for injury, loss of life, and property damage. Such fires can result from human-made or natural causes. The type and amount of fuel, topography, and climate are the primary factors influencing the degree of wildfire risk.

The State of California (through the California Department of Forestry and Fire Protection [CAL FIRE]) has the primary legal and financial responsibility for the prevention and suppression of wildland fires in State Responsibility Areas (SRAs), while Local Responsibility Areas (LRAs) include incorporated cities and more densely populated areas with fire protection typically provided by city fire departments, fire protection districts, counties, and/or joint agreements with CAL FIRE. The Project site is entirely within an LRA under the firefighting responsibility of Fresno County (Fire and Resource Assessment Program 2022).

#### 3.20.1.1 Study Area

For this analysis of wildfire risk, emergency response and evacuation, and post-fire pollution and runoff-related impacts, the study area includes each of the parcels that make up the Project site, as well as the surrounding parcels and related access roads, structures, and vegetation.

#### 3.20.1.2 Environmental Setting

##### ***Fire Environment***

Fire behavior is primarily dependent upon fuels (e.g., vegetation), weather (e.g., wind, temperature, and humidity), and topography (e.g., slope, elevation, and aspect). The combination of these three factors, which are described in more detail below, can help or hinder the spread of a wildfire if one occurs.

## Topography

*Topography* describes the shape of the land and can include descriptions of elevation (height above sea level), slope (the steepness of the land), aspect (the direction a slope faces), and features such as canyons and valleys. Topography can strongly influence fire behavior, including the speed at which a fire moves through an area: Fire typically moves more quickly when it travels uphill than when it travels either downhill or across flat terrain. As heat rises in front of the fire, it preheats and dries upslope fuels, resulting in their rapid combustion (Bennett 2017).

Fresno County can be categorized into three geographical regions as distinguished by their topography: (1) broad, flat valley floors that generally slope from the southeast to the northwest; (2) foothills and moderately high mountains (Coast Ranges) in the west; and (3) foothills and high mountains (Sierra Nevada) in the east. Approximately 55 percent of the county is mountainous, and 45 percent is valley land. Elevations range from 100 to 400 feet on the valley floor to 4,000 feet in the Coast Ranges and more than 14,000 feet in the Sierra Nevada (Fresno County 2018). The Project site is located within the farthest southwest corner of the first geographical region, which contains predominantly flat valley floors with a gentle or gradual slope along the southwestern portion of Fresno County. This flat topography in the vicinity of the Project site is one contributor to the lack of fire hazard severity zoning and California Public Utilities Commission (CPUC) high-fire-threat designation in this region, as described below.

## Vegetation/Fuels

*Fuel* is the material that feeds a fire and is a key factor in wildfire behavior. Fuel sources are diverse and include dead tree leaves, twigs, branches, and standing trees; live trees and brush; and dry grasses. Additional fuel sources can include human-made structures such as homes, buildings, and other associated combustible materials. Fuel types in the vicinity of the Project site consist primarily of annual grasses, with deciduous oaks and heavy brush also occurring in western Fresno County (Fresno County 2018). The Project site and immediate surrounding area contain predominantly agricultural land, including fallow land. Few to no trees, brush, or branches exist on-site. This relative lack of fuels is another contributor to the lack of identified fire hazard on the site. For additional description of vegetation types surrounding the Project site, see Section 3.5, *Biological Resources*.

## Weather/Climate

Weather conditions such as wind, temperature, and humidity also contribute to fire behavior. Fuels located in hotter and drier temperatures are more susceptible to ignition and catch fire more readily than fuels located in moister and/or cooler temperature conditions.

Summers are long, hot, and dry in the valley in which the Project site is located. Winters are short and mild with light rain. Most of the seasonal precipitation occurs between October and April (Fresno County 2018). Over the course of the year, temperatures typically range from 39 degrees Fahrenheit (°F) to 99°F and rarely drop below 31°F or exceed 106°F. Wind in Fresno County is highly dependent on local topography and other factors; however, the windiest parts of the year are from April to July, with wind speeds averaging around 5.6 miles per hour (Weather Spark 2022).



## Fire History

Wildfire is an ongoing concern in Fresno County. Historically, the fire season extends through the hot, dry months from June through October of each year. According to the Fresno County Fire History Map within the Multi-Jurisdictional Hazard Mitigation Plan (Fresno County 2018), most fires occur in either the eastern or western portions of Fresno County. Few to no wildfires are known to have occurred in the San Joaquin Valley or on the Project site. Therefore, the Project site, located in the southwest region of the county, is not within either of the areas of increased risk (Fresno County 2018).

Since 2010, the length of the fire season in Fresno County and throughout California has been increasing, typically starting in May and extending into November, but wildfires can occur at any time of the year. According to the Fresno-Kings Unit Fire Plan, in 2020 the Fresno-Kings Unit's wildfire activity consisted of 100 fires totaling 32,189 acres in SRAs and 473 fires totaling 2,752 acres in LRAs. The top ignition sources of wildland fire causes in LRAs were arson (98 fires), undetermined (64), debris burning (54), vehicles (45), miscellaneous (33), equipment (26), electrical power (21), playing with fire (19), smoking (6), under investigation (6), campfires (4), railroad (1), and lightning (1) (CAL FIRE 2020).

## Impacts of Wildfire on Air Quality

As wildfires burn fuel, large amounts of carbon dioxide, particulate matter, and ozone precursors are released into the atmosphere. Wildfires also emit a substantial amount of volatile and semi-volatile organic materials and nitrogen oxides that form ozone and organic particulate matter. These emissions can lead to harmful exposures for first responders, nearby residents, and even populations in regions farther from the wildfires (NOAA 2021). Exposure to these pollutants can cause asthma attacks, coughing, and shortness of breath. Chronic exposure to these pollutants can increase the risk of developing chronic health conditions such as heart disease, diabetes, and cancer (Hamers 2018; Milman 2018). These pollutants are described in more detail in Section 3.4, *Air Quality*.

## CAL FIRE Fire Hazard Severity Zone Designations

CAL FIRE has published Fire Hazard Severity Zone (FHSZ) maps for lands in SRAs, with ratings from Moderate to Very High. However, in LRAs, where the Project site is located, CAL FIRE makes recommendations only for Very High FHSZs, which cities and counties are encouraged to adopt into local plans. No Very High FHSZs have been recommended in Fresno County (CAL FIRE 2023). The nearest mapped FHSZ in an SRA is about 2 miles south of the Project site, where there is a mix of Moderate and High FHSZs (CAL FIRE 2022a). This indicates a low level of concern by CAL FIRE regarding wildfire hazard in the immediate vicinity of the Project site; however, the hills located to the south and west of the Project site, on the other side of Interstate 5, are of greater concern for wildfire threats.

## California Public Utilities Commission–Designated Wildfire Hazard Zones

Pursuant to its Fire Safety Rulemaking, CPUC mapped high-fire-threat areas where more stringent inspection, maintenance, vegetation clearance, and wire clearance requirements (as required by CPUC General Orders 95, 165, and 166, described in Section 3.20.1.3, *Regulatory*

*Setting*) would be implemented because of the elevated risk for power line fires. The CPUC High Fire Threat District Map identifies elevated risk for fires associated with utilities based on criteria such as fire hazards associated with historical power line–caused wildfires and current fuel conditions and scores geographic areas based on where fires start, as opposed to where potential fires may cause impacts. The Project site is not located in a CPUC-designated High Fire Threat District (CPUC 2021).

### **Fire Protection Services**

Because the Project site is in a designated LRA, primary fire protection services in the vicinity of the Project site are provided by the Fresno County Fire Protection District (FCFPD). Section 3.16, *Public Services*, outlines additional details regarding fire protection services. The closest fire station to the Project site is Station 93, which is part of Fresno County Fire Battalion 14 and is located approximately 5 miles to the northeast at 36421 S. Lassen Avenue in the community of Huron (FCFPD 2022).

### **3.20.1.3 Regulatory Setting**

#### **Federal**

#### **North American Electric Reliability Corporation Standards**

The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority comprising 10 regional reliability councils. The overarching goal of NERC is to ensure the reliability of the bulk power system in North America. To achieve its goal, NERC develops and enforces reliability standards, monitors the bulk power systems, and educates, trains, and certifies industry personnel. In part to improve the reliability of regional electric transmission systems, NERC developed a transmission vegetation management program that is applicable to all transmission lines operated at 200 kilovolts and higher, as well as lower voltage lines designated by the Regional Reliability Organization as critical to the reliability of the region’s electric system (NERC 2020).

The program, which became effective on April 7, 2006, applies to PG&E’s transmission line–related vegetation management activities in the Project area such as NERC Standard FAC-003, Transmission Vegetation Management. It establishes the requirements of the formal transmission vegetation management program. These requirements include identifying and documenting clearances between vegetation and any overhead, ungrounded supply conductors, while considering transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, fire risk, line terrain and elevation, and the effects of wind velocities on conductor sway. The clearances identified must be no less than those set forth in Institute of Electrical and Electronics Engineers Standard 516-2021 (*Guide for Maintenance Methods on Energized Power Lines*) (IEEE 2021), which establishes minimum vegetation-to-conductor clearances to maintain the electrical integrity of the electrical system.

## **State**

### **2019 Strategic Fire Plan for California and Fresno-Kings Unit Strategic Fire Plan**

Developed by the State Board of Forestry and Fire Protection, the Strategic Fire Plan outlines goals and objectives to implement CAL FIRE's overall policy direction and vision. The 2019 Plan demonstrates CAL FIRE's goals of (1) improving its core capabilities, (2) enhancing its internal operations, (3) ensuring health and safety, and (4) building an engaged, motivated, and innovative workforce.

CAL FIRE's jurisdiction extends the length and breadth of the state with an emergency response and resource protection capability of 6,100 full-time fire professionals, foresters, and administrative employees; 2,600 seasonal firefighters; 105 California Conservation Corps firefighters; 600 Volunteers in Prevention; and 3,500 inmates and wards. CAL FIRE provides direction for fire prevention and enforcement within SRAs using fire resource assessments, a variety of available data, mapping, and other tools. Pre-fire management activities, including prescribed burning, fuel breaks, forest health treatments, and removal of hazardous vegetation, are conducted at the unit level under the guidance of CAL FIRE program managers. Through the 2019 Strategic Plan, CAL FIRE also delivers Land Use Planning and Defensible Space Inspection programs to the local level across the state (CAL FIRE 2019).

The California Strategic Fire Plan outlines 27 operational units. The Project site is located within the Fresno-Kings Operational Unit and would follow goals and objectives outlined in the Fresno-Kings Unit Strategic Fire Plan, which was completed by a collaborative effort with various stakeholders in the unit, program managers, bureau managers, and battalion chiefs. The unit's Fire Plan is updated each year based on the accomplishments, goals, and objectives outlined by the unit and the California Strategic Fire Plan. The Fire Plan is executed by a continued working relationship with CAL FIRE and FCFPD and is divided into battalions. The Project site is located within the jurisdictional area of Battalion 15, which predominantly covers the central and western areas of FCFPD in the Fresno-Kings Unit (CAL FIRE 2022b). Battalion 15 consists of 730,970 acres of LRAs, including that of the Project site.

### **California Emergency Response Plan**

Pursuant to the Emergency Services Act (Government Code Section 8550 et seq.), California has developed an emergency plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the U.S. Environmental Protection Agency, California Highway Patrol, California Department of Fish and Wildlife, the nine regional water quality control boards (including, as relevant to this Project, the Central Valley Regional Water Quality Control Board), the local air districts (including the San Joaquin Valley Air Pollution Control District), and local agencies. The State Emergency Plan defines the "policies, concepts, and general protocols" for the proper implementation of the California Standardized Emergency Management System (SEMS). The SEMS is an emergency

management protocol that agencies within the State of California must follow during multi-agency response efforts whenever state agencies are involved.

### **2022 California Fire Code**

The 2022 California Fire Code is contained within Title 24, Part 9 of the California Code of Regulations. Based on the International Fire Code, the California Fire Code is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the California Fire Code and the California Building Code use a hazards classification system to determine the appropriate measures to incorporate to protect life and property. It is an enforceable set of regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of fire and explosion; dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; and hazardous conditions in the use or occupancy of buildings or premises. It also contains provisions to assist emergency response personnel.

Section 1207 of the 2022 California Fire Code addresses design, construction, operation and maintenance, decommissioning, and hazard response (including for both fire and spill hazards) for electrical energy storage systems. Fresno County has recently adopted the 2022 version of the California Fire Code. Therefore, Fresno County has enforcement authority for the California Fire Code for projects under its jurisdiction.

Section 1207 requires energy storage systems to meet Underwriters Laboratories (UL) standard UL 9540, which is a safety standard specific to energy storage systems. For energy storage systems connected to a utility grid, including this Project, the UL 9540 standard also extends to the equipment used to make that connection. This standard pertains to fire and explosion safety concerns associated with energy storage systems, including the safety of the storage (battery) component during operation, fire detection, and fire mitigation effectiveness in enclosed areas. Fresno County would require full compliance with the California Fire Code and all applicable standards contained therein for final design and implementation of the Project.

### **California Public Resources Code**

The California Public Resources Code includes fire safety provisions that are deemed necessary by the director or agency with primary responsibility for fire protection in the area. During the fire hazard season, these regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire-suppression equipment that must be provided on-site for various types of work in fire-prone areas. Additional provisions in Public Resources Code Sections 4294–4296 require that any owners or operators of electrical transmission or distribution lines on grass-covered land, such as found at and near the Project site, maintain a firebreak clearing around and adjacent to poles, towers, and conductors. Section 4292 requires that PG&E maintain a 10-foot firebreak clearance around the base of a utility pole, with tree limbs within the 10-foot radius of the pole being removed up to 8 feet above ground.

The state's Fire Prevention Standards for Electric Utilities (14 Cal. Code Regs. Sections 1250–1258) provide specific exemptions from electric pole and tower firebreak and electric conductor clearance standards and specify when and where standards apply.

### **California Public Utilities Commission General Orders**

#### **General Order 95**

CPUC General Order 95 applies to work conducted by PG&E, including the construction and reconstruction of overhead electric lines. The replacement of poles, towers, or other structures is considered reconstruction and requires adherence to all strength and clearance requirements of this order.

The CPUC has promulgated various rules to implement the fire safety requirements of General Order 95, including:

- Rule 18A, which requires utility companies to take appropriate corrective action to remedy safety hazards and General Order 95 nonconformances. Additionally, this rule requires that each utility company establish an auditable maintenance program.
- Rule 31.2, which requires that lines be inspected frequently and thoroughly. It also requires that lines temporarily out of service be inspected and maintained.
- Rule 35, which requires that vegetation management activities be performed to establish necessary and reasonable clearances. These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order. Specifically, this applies to communication and electric supply circuits, energized at 750 volts or less, which must be kept clear of vegetation in new construction and when circuits are reconstructed or repaired.
- Rule 38, which establishes minimum vertical, horizontal, and radial clearances of wires from other wires (CPUC 2020).

#### **General Order 165**

General Order 165 establishes requirements for the inspection of electric distribution and transmission facilities that are not contained within a substation. Utilities must perform “patrol” inspections, which are defined as a simple visual inspection of utility equipment and structures (designed to identify obvious structural problems and hazards) at least once per year for each piece of equipment and structure. Detailed inspections, where individual pieces of equipment and structures are carefully examined, are required every 5 years for all overhead conductor and cables, transformers, switching/protective devices, and regulators/capacitors. By July 1 of each year, each utility subject to General Order 165 must submit an annual report of its inspections for the previous year under penalty of perjury (CPUC 2017b).

#### **General Order 166**

General Order 166 Standard 1.E requires each investor-owned utility, such as PG&E, to develop a fire prevention plan describing measures that the utility will implement to mitigate the threat of power line fires generally. Additionally, this standard requires that investor-owned utilities

outline a plan to mitigate power line fires when wind conditions exceed the structural design standards of the line during a Red Flag Warning event in a high-fire-threat area. Fire prevention plans formulated by investor-owned utilities are required to identify specific parts of the utility's service territory where the conditions described above (i.e., Red Flag Warnings and high-wind events) may occur simultaneously. Standard 11 requires that utilities report annually to the CPUC regarding compliance with General Order 166 (CPUC 2017c). In compliance with Standard 1.E of this General Order, PG&E adopted a fire prevention plan on September 30, 2017.

### ***Senate Bill 1028 and Senate Bill 901***

Senate Bill (SB) 1028 (2016) requires each electrical corporation to construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment, and makes a violation of these provisions by an electrical corporation a crime under state law. The bill also requires each electrical corporation to annually prepare a wildfire mitigation plan and submit it to CPUC for review. The plan must include a statement of objectives, a description of preventive strategies and programs focused on minimizing risk associated with electric facilities, and a description of the metrics that the electric corporation uses to evaluate the overall wildfire mitigation plan performance and assumptions that underlie the use of the metrics.

SB 901 (Dodd, 2018) expanded upon the wildfire mitigation plan requirements of SB 1028 and included several provisions related to wildfire risk and management in California, including increasing the maximum penalties that can be issued by the CPUC to a public utility that fails to comply with CPUC requirements. The legislation added to the requirements for utilities' wildfire mitigation plans, which must now include the following information:

- Consideration of dynamic climate change risks.
- Protocols for disabling reclosers<sup>1</sup> and de-energizing portions of the electrical distribution system that consider the associated impacts on public safety.
- Protocols related to mitigating the public safety impacts of those disabling and de-energizing protocols, including impacts on critical first responders and on health and communication infrastructure.
- Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.

These wildfire mitigation plans must be reviewed by an independent evaluator.

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<sup>1</sup> As explained in the committee analysis for SB 901, "Automated reclosers work much like enhanced circuit breakers. When an abnormal electrical current is detected on a power line, the line automatically shuts down. The recloser waits several seconds, then sends a burst of electricity through the line to see if conditions have returned to normal. If so, the recloser automatically restarts the flow of power. Reclosers are considered a key tool to prevent or minimize blackouts, particularly in rural areas. By restarting service on a line automatically, the recloser eliminates the need to send utility crews to fix many minor service disruptions. However, if a power line is damaged, touching vegetation, or dangling toward the ground, an automatic recloser can pose a fire risk. The burst of current sent by the recloser to test a line can ignite dry plants." (California Assembly Committee on Utilities and Energy 2018.)

### **PG&E Company Emergency Response Plan**

PG&E's Emergency Response Plan, prepared in compliance with Standard 1 (which requires utilities to prepare an emergency response plan), describes and formalizes PG&E's in-place plans and protocols for responding to emergencies. The plan identifies potential hazards, available resources to respond to emergencies, internal communication protocols, and operational structure. Additionally, PG&E's Wildfire Safety Operations Center operates 24 hours a day during wildfire season (PG&E 2019).

### **PG&E Wildfire Mitigation Plan**

On February 25, 2022, PG&E submitted its 2021 Wildfire Mitigation Plan (WMP) in compliance with SB 901, AB 1054, and direction from the CPUC Wildfire Safety Division. The 2022 WMP provides updated details on PG&E's comprehensive Community Wildfire Safety Program, incorporates lessons learned from the 2021 wildfire season, and outlines the additional programs planned to continue reducing catastrophic wildfire risk. PG&E's updated WMP has three overarching goals: (1) Reduce wildfire potential, (2) reduce the impact of Public Safety Power Shutoff and Enhanced Powerline Safety Settings events, and (3) improve situational awareness. The updated 2022 WMP benefits from both historical data (e.g., weather patterns, detailed information on previous ignitions, outages, and other risk events) and state-of-the-art tools such as fire-spread technology that show the locations where specific infrastructure failures can lead to ignitions with the highest consequences for specific communities. Wildfire mitigation workstreams, system hardening, and enhanced vegetation management will be a main focus for the updated 2022 WMP in higher risk circuit segments and in fire rebuild areas (PG&E 2022).

## **Local**

### **Fresno County 2000 General Plan**

The Health and Safety Element of the Fresno County General Plan outlines Fresno County's planning strategies regarding emergency management and response, fire hazards, flood hazards, seismic and geological hazards, airport hazards, hazardous materials, and noise. The following policies of the Health and Safety Element related to fire hazards are applicable to the Project:

***Policy HS-B.1:*** The County shall review project proposals to identify potential fire hazards and to evaluate the effectiveness of preventive measures to reduce the risk to life and property.

***Policy HS-B.5:*** The County shall require development to have adequate access for fire and emergency vehicles and equipment.

***Policy HS-B.8:*** The County shall refer development proposals in the unincorporated County to the appropriate local fire agencies for review of compliance with fire safety standards. If dual responsibility exists, both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall apply.

***Policy HS-B.11:*** The County shall require new development to have water systems that meet County fire flow requirements. Where minimum fire flow is not available to meet County standards, alternate fire protection measures, including sprinkler systems, shall be

identified and may be incorporated into development if approved by the appropriate fire protection agency.

### **Fresno County Multi-Hazard Mitigation Plan**

The purpose of the Fresno County Multi-Hazard Mitigation Plan is to reduce or eliminate any long-term risk to people and property from hazards such as floods, wildfires, severe weather, drought, and agricultural hazards that could have a significant impact on the County. Fresno County and the other participating jurisdictions developed this multi-hazard mitigation plan to make the county and its residents less vulnerable to future hazard events, such as wildfire (Fresno County 2018). The Multi-Hazard Mitigation Plan recommends multiple mitigation actions to reduce vulnerability to hazardous events, such as emergency plans or evacuation routes.

### **Fresno County Operational Area Master Emergency Services Plan**

In 1995, the Fresno County Board of Supervisors adopted California's Standardized Emergency Management System, established the geographic area of Fresno County as the Fresno County Operational Area, and designated Fresno County as the Operational Area Lead Agency (Fresno County 2017a). The Office of Emergency Services coordinates the development and maintenance of the Fresno County Operational Area Master Emergency Services Plan. The Office of Emergency Services prepared the Fresno County Operational Area Master Emergency Services Plan to serve as a guide for response to an emergency/disaster in the unincorporated areas of the Fresno County Operational Area, and to coordinate and assist with the disaster response in jurisdictions both within and outside of the Fresno County Operational Area.

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017b). Although the Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. The Solar Facility Guidelines provision encouraging the creation of a buffer between a proposed energy facility and adjacent agricultural operations is relevant to this analysis of potential impacts related to wildfire.

## **3.20.2 Significance Criteria**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the Project would result in a significant impact related to wildfire if it would:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan;



- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes; or
- e) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.

### 3.20.3 Direct and Indirect Effects

#### 3.20.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.2, *Fire Protection*, and in Section 2.5.9.7, *Emergency Action Plan*, would reduce potential impacts related to wildfire. Implementation of the actions described in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, relating to worker training and safe practices could further reduce potential impacts related to wildfire.

#### 3.20.3.2 Methodology

The following analysis uses the criteria from Appendix G of the CEQA Guidelines to guide the identification of wildfire impacts. This analysis takes into consideration the Project itself, as well as the necessary PG&E infrastructure required for the Project, including the substation and the electric connection line.

#### 3.20.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would substantially impair an adopted emergency response plan or emergency evacuation plan.

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**Impact 3.20-1: The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)**

No evacuation routes are outlined in the Fresno County Multi-Hazard Mitigation Plan (Fresno County 2018), the Master Emergency Services Plan (Fresno County 2017a), or the Fresno County General Plan (Fresno County 2000). Therefore, evacuation routes for the Project location and surrounding area would be identified and coordinated as needed by local law enforcement and emergency service responders during an emergency.

As stated in Chapter 2, *Project Description*, energy storage facilities, unless properly constructed, maintained, and operated, can create hazards for firefighters and emergency responders, with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, chemical burns. Therefore, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 2550[b]); 19 Cal. Code Regs. 2731; 22 Cal. Code Regs. 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the fire department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders.

For these reasons, the Project would have a less-than-significant impact on emergency response and evacuation plans during construction, operation and maintenance, and decommissioning phases.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

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**Impact 3.20-2: The Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. (*Less-than-Significant Impact*)**

As described above, the Project site is not populated and is sparsely vegetated in a largely flat agricultural region with no forested areas in the vicinity. According to CAL FIRE, CPUC, and Fresno County, the Project site is not identified as an area of high fire risk (CAL FIRE 2023; CPUC 2017a; Fresno County 2018).

The predominant fire hazard from Project construction would involve the use of vehicles and equipment, which could ignite dry vegetation and result in a fire, particularly during the drier, warmer conditions of summer and fall. Construction activities that could result in sparks, such as welding or grading, have a greater potential to result in an ignition. Therefore, depending on the time of year and the location of construction activities, construction activities could increase the sources of potential ignition associated with Project construction and could temporarily exacerbate the risk of wildfire. If construction were to result in an ignition, wildfire could result in smoke and air pollutants that could result in poor air quality for the surrounding communities. As discussed above, existing conditions on the Project site include flat topography and sparse vegetation, and the area is not historically prone to fires. Therefore, although the use of vehicle and equipment on the Project site could result in an ignition that could lead to the spread of

wildfire, the risk of such an impact would be low given the short-term duration of construction, existing flat topography, lack of vegetation on-site, and distance to population centers.

The risk of ignition from vehicle and equipment use would be similar during the decommissioning phase. As such, routine maintenance and vegetation clearance during operation and maintenance would ensure that at the time of decommissioning, all required fire breaks comply with all applicable regulatory requirements; thus, the quantity of available fuels would be low. As a result, the risk of a decommissioning-related ignition resulting in an exacerbated risk of wildfire would be less than significant.

In addition, given the inherent potential for ignition risk associated with power lines, PG&E's Fire Prevention Plan would be applied to the PG&E Interconnection Facilities, as required by CPUC General Order 166. The implementation of operational risk management programs identified in PG&E's Fire Prevention Plan and Wildfire Safety Plan would reduce the risk of an ignition during operation. Relevant programs include enhanced weather monitoring, the Wood Pole Test and Treat Program, ProActive Responses to Fire Incidents, enhancements to PG&E's Storm Outage Prediction Model, the Wildfire Reclosing Disable Program, and the implementation of the Public Safety Power Shutoff program (PG&E 2019). Additionally, vegetation along PG&E line would be managed in compliance with NERC Standard FAC-003, Transmission Vegetation Management. The Project also would abide by the CPUC vegetation management and clearance requirements, General Order 95, and General Order 165, which would effectively manage the risk of exposing surrounding communities to exacerbated risk of the uncontrolled spread of a wildfire during construction and operation. Impacts related to wildland fire from the added PG&E infrastructure would be less than significant.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment.

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**Impact 3.20-3: The Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. (*Less-than-Significant Impact*)**

The Project would include the installation and/or maintenance of fuel breaks, power lines, and other electrical utilities that could exacerbate the fire risk. The proposed fire and/or fuel breaks, power lines, and electrical utility infrastructure all are considered part of the Project, and the environmental impacts that may result from implementation of these components are analyzed throughout this document on a resource-by-resource basis. The implementation of fuel breaks and vegetation clearances, discussed above in the context of Impact 3.20-2, would assist with fire prevention and suppression and therefore would not exacerbate fire risk. To reduce fire risk associated with the PG&E Interconnection Facilities, PG&E would comply with CPUC vegetation clearance and other regulatory requirements described in the context of Impact 3.20-2.

As stated in Chapter 2, *Project Description*, the energy storage system enclosures would also house the heating, ventilation, and air conditioning and fire protection systems. These enclosures would also house bi-directional inverters, of which the controllers would be located outside the structures along with the transformers. These controllers would ensure that the energy storage system effectively responds to grid emergency conditions and would provide a secondary safety system designed to safely shut down the facility. In addition, enclosures would be unoccupied. Flow batteries are generally not flammable and do not require fire suppression systems. Flow battery tanks would be designed to have containment in the event of a failure. Energy storage equipment would comply with UL-9540 (Standard for Safety of Energy Storage Systems and Equipment) and account for the results of UL-9540A (large-scale fire test). Thus, given the emergency mechanisms and safeguards implemented, the risk and spread of wildfire would be low.

In addition, the Project would comply with the Fresno County Solar Facility Guidelines and would retain a 50-foot buffer between Project facilities (excluding fencing) and surrounding properties. Preliminary site plans indicate that structural improvement and equipment would be kept within 50 feet of the site boundary. This would provide a more than adequate buffer to stop the spread to surrounding areas, should a fire break out.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

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For the reasons discussed below, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. (*No Impact*)

The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The Project does not include any housing; therefore, it would not expose people to increased risk associated with flooding, landslides, or post-fire slope instability as a result of locating housing near such existing risks.

As analyzed in Section 3.11, *Hydrology and Water Quality*, the Project would not substantially alter existing drainage patterns, cause erosion, create surface runoff that would contribute to flooding on- or off-site, affect stormwater drainage capacity, or impede flood flows. As a precaution, the Project would also implement stormwater detention systems to retain stormwater during rare extreme-flooding events.

As discussed in the context of Impact 3.20-2, Project construction would have a less-than-significant impact on wildfire risk, given the short duration of construction, the flat site topography, the minimal vegetation, and the Project's implementation of required fuel breaks, vegetation clearances, and compliance with applicable CPUC General Orders. Because the

Project would have a low potential to exacerbate wildfire risk, it also would not pose a substantial risk of causing post-fire slope instability. Additionally, because the Project site is located on flat land, the Project would not be located on slopes that could contribute to the occurrence of landslides or flooding. Therefore, while the Project would have no impact regarding its potential to exacerbate the risk of flooding and mudslides as a result of post-fire slope instability, it would have a less-than-significant impact overall relating to the potential to expose people or structures to significant risks as a result of runoff or drainage changes.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.

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**Impact 3.20-4: The Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire. (*Less-than-Significant Impact*)**

The Project site is not located in an SRA and is not classified as a Very High FHSZ. No Very High FHSZs have been recommended in Fresno County (CAL FIRE 2023). The nearest mapped FHSZ in an SRA is approximately 2 miles south of the Project site, where there is a mix of Moderate and High FHSZs (CAL FIRE 2022a). This indicates a low level of concern by CAL FIRE regarding wildfire hazard in the immediate vicinity of the Project site.

Project construction and decommissioning would involve the use of scrapers, graders, dozers, compaction equipment, and other vehicles and equipment that have the potential to ignite fires. Operation of the energy storage system and transmission lines also have the potential to ignite fires. Any loss, injury, or death involving wildfire can be devastating. However, the combination of the low level of wildfire concern in the area and implementation of the activities proposed in Chapter 2, Section 2.5.9.2, *Fire Protection*, Section 2.5.9.7, *Emergency Action Plan*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, would ensure that the Project would not cause a potential significant impact related to the exposure of people or structures to a significant risk of loss, injury, or death involving wildfire. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan (see Impact 3.20-1), would not significantly exacerbate wildfire risks (Impact 3.20-2), and would maintain adequate access to and through the Project site. The Project also would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system (Impact 3.10-2). Therefore, a less-than-significant impact would result related to criterion e).

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each

up to 200 feet tall on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

Like the Project, incremental impacts on wildfire specific to the PG&E work would be less than significant relating to the impairment of an adopted emergency response plan or emergency evacuation plan; the exacerbation of wildfire risks and related exposure of Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; the installation of power lines that could exacerbate fire risk; the expose people or structures to post-fire risks or to a significant risk of loss, injury, or death involving wildfire. The work needed at the Gates Substation and at the Midway Substation would involve equipment and vehicles that could result in ignition of a fire; however, wildfire risk from the proposed minor modifications (primarily including replacement and upgrades) to existing equipment would not be appreciably different than existing conditions.

### 3.20.4 Cumulative Effects Analysis

The geographic scope for potential cumulative impacts related to wildfire consists of agricultural land uses, solar projects, and other battery storage facilities. The main projects to consider include the PG&E Gates storage facility modifications, the Fifth Standard Solar Complex, and the PG&E Replacement Bank. Ongoing impacts related to the wildfire considerations of past projects are reflected in the environmental setting described in Section 3.20.1.2 and specifically include the potential for the nearby solar projects and agricultural land uses to result in an ignition as a result of a mechanical failure or maintenance activities. Environmental conditions in the geographic scope for cumulative effects are not conducive to the rapid spread of uncontrolled wildfire, and although existing land uses could result in a source of ignition, operating solar projects and agricultural uses do not present a significant risk with respect to ignition sources.

Additionally, there have been no historic fires in the Project vicinity. In combination with other projects in the vicinity, the Project could increase the potential for ignition sources in the area. However, given the flat topography and lack of vegetation within the geographic scope of cumulative impacts, the impact of an increase in ignition sources of the Project in combination with the incremental impacts of other projects (e.g., the PG&E Gates Facility) would be less than significant. Therefore, no significant cumulative effect exists related to wildfire to which the Project could contribute.

**Impact 3.20-5: The Project would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact. (*Less-than-Significant Impact*)**

The cumulative impacts of this Project, when considered with others in the region, do not obstruct any emergency response or evacuation plan. Because no evacuation routes are outlined in the Fresno County Multi-Hazard Mitigation Plan (Fresno County 2018), the Master Emergency Services Plan (Fresno County 2017a), or the Fresno County General Plan (Fresno County 2000), evacuation routes for this area would be identified and coordinated as needed by local law enforcement and emergency service responders during an emergency. It is reasonable to assume that these routes would not change based on the number of projects in this region, as local

agencies would still need to outline routes in case of an emergency. Thus, the agencies would not be overburdened by the addition of this Project to the region, as there is already a requirement to act in an emergency that necessitates personnel evacuation. Cumulatively, this Project's less-than-significant contribution to cumulative conditions would not cause or contribute to a significant cumulative impact due to impairment of an emergency response plan.

The Project's less-than-significant contribution to cumulative conditions also would not cause or contribute to a significant cumulative impact related to the exacerbation of wildfire risks due to slope, prevailing winds, or other factors, thereby exposing Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. This is because the Project site and the surrounding area are not populated and are sparsely vegetated in a largely flat agricultural region with no forested areas. In addition, the other developed land uses include other energy storage and generation related projects, all of which abide by local fire codes and regulations. According to CAL FIRE, CPUC, and Fresno County, the Project site is not identified as an area of high fire risk (CAL FIRE 2023; CPUC 2017a; Fresno County 2018). Thus, when considered with other land uses in the region, the addition of this Project would not contribute to a greater risk of wildfire. Given the topography of the region, the predominant fire hazard can be reasonably assumed to be construction-related occurrences. This would involve the use of vehicles and equipment, which could ignite dry vegetation and result in a fire. However, even though these construction-related activities could increase the sources of potential ignition with each project, the incremental cumulative impacts of wildfire risk to the region as a whole would still be less than significant.

It is reasonable to assume, given the Project's proximity to the PG&E Gates Substation, that advancement in technology and infrastructure will occur in the future. This region is prime for battery storage and other energy-related infrastructure. Although the Project itself does not exacerbate fire risk, the need for additional roads, water sources, power sources, etc., related to these energy infrastructure improvements may present an increased risk. This is beyond the scope of the Project's foreseeable future, but cumulatively this may present an increased fire risk to this region and should be noted. Nonetheless, the commitment and obligation to maintain buffer zones compliant with state and local regulations would ensure that the Project's incremental contribution to potential significant wildfire impacts would not be cumulatively considerable and thus would be less than significant.

The Project's less-than-significant contribution to cumulative conditions also would not cause or contribute to a significant cumulative impact related to the exposure of people or structures to significant risk of loss, injury, or death involving wildfire. This is because the region is relatively flat, sparsely populated, not in an SRA and not in a Very High FHSZ so there would be no cumulatively added risk to structures or people by the addition of the Project. Cumulatively, the impacts would be less than significant.

**Mitigation:** None required.

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# CHAPTER 4

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## Alternatives

CEQA requires that a lead agency analyze a reasonable range of alternatives to a proposed project that could feasibly attain most of the basic objectives of the project while substantially reducing or eliminating significant environmental effects. CEQA also requires that an EIR evaluate a “no project” alternative to allow decision-makers to compare impacts of approving a project with the impacts of not approving it. This chapter describes the key considerations used to identify and screen potential alternatives, explains why some potential alternatives were eliminated from further consideration, and describes those alternatives that were carried forward for analysis. This section also compares the environmental advantages and disadvantages of the Project and alternatives evaluated in detail in this Draft EIR.

### 4.1 Alternatives Screening and Development Process

The County screened and thereafter selected alternatives to be analyzed in greater detail based on the considerations listed in CEQA Guidelines Section 15126.6, chiefly including this direction:

*An EIR shall 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. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.... There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.*

Alternatives typically involve changes to the location, scope, design, extent, intensity, or methods of construction or operation of a proposed project. The range of alternatives for this Project has been selected based on the four screening factors enumerated below to foster meaningful public participation and informed decision making. The results of the screening process are presented in the sections that follow.

- (1) Whether the potential alternative would meet most of the basic project objectives. A project’s statement of objectives describes the purpose of the project and the reasons for undertaking it. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in the EIR (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* [2008] 43 Cal.4th 1143). The project purpose and objectives for this Project are identified in Section 2.4, *Project Purpose and Objectives*.

- (2) Whether the potential alternative would be “potentially feasible.” In this context, *feasible* means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (Public Resources Code Section 21061.1; CEQA Guidelines Sections 15126.6 and 15364). According to CEQA Guidelines Section 15126.6(f)(1), “Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.” Although EIRs must contain a discussion of potentially feasible alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by lead agency decision-makers who may consider evidence beyond that found in the EIR (Public Resources Code Section 21081[a][3]).
- (3) Whether the potential alternative would be able to avoid or substantially lessen any of the potentially significant impacts of the project. See Chapter 3, *Environmental Analysis*.
- (4) Whether implementation of the potential alternative is remote or speculative. Eliminating unrealistic or conjectural alternatives from detailed analysis in the EIR allows decision makers and members of the public to focus on alternatives capable of being approved and carried out in lieu of the Project as proposed.

## 4.2 Alternatives Rejected from Detailed Consideration

Any potential alternative determined not to meet most of the basic Project objectives; to be infeasible, or not to be able to avoid or substantially lessen one or more potential significant impacts of the Project; or to be either remote or speculative was not carried forward for detailed consideration. A brief description and rationale for not carrying forward potential alternatives that failed the screening process is provided below.

### 4.2.1.1 Alternative Sites

#### *Siting Criteria*

The Applicant’s approach to initial site evaluation and selection was to find a business-reasonable balance of the results of an environmental constraints analysis and permitting challenges. Primary selection criteria included the following (Key Energy Storage LLC 2021):

- Minimizing the complexity of interconnection (including both logistical and safety issues) by finding sites close to the Gates Substation and existing transmission lines that would avoid a need for the Project’s gen-tie line to traverse an interstate or the California Aqueduct.
- Identifying landowners willing to make their property available for energy storage.
- Identifying sites that were otherwise suitable for the proposed use based on the adequacy of roadways, separation from residences, and because they were both relatively flat and outside of a 100-year floodplain.

Accordingly, any potential alternative site that would not meet these primary selection criteria would not be a reasonable alternative to the Project and the implementation of an alternative project on such a site would be both remote and speculative.

Changing the point of interconnection from the Gates Substation would not be feasible because the California Independent System Operator (CAISO) and the Applicant have an interconnection agreement in place to provide battery storage at this location. Additionally, the Project has been located adjacent to the Gates Substation to minimize energy losses between the substation and the generating facility, thereby facilitating energy efficiency. Therefore, alternative sites that would require a new interconnection position were not considered feasible alternatives to the Project for the purposes of CEQA. However, it is possible that the Project could be developed on an alternative site that could utilize the Project's Gates interconnection.

### **Westlands Solar Park Alternative**

Under a Westlands Solar Park Alternative, an energy storage project would be developed on 260 acres of grazing land within the eastern portion of Westlands Solar Park (WSP), which is located approximately 10 miles directly east of the Project site on the path of the WSP-South Gen-Tie line described and analyzed in Westlands Water District's December 2017 Final Program EIR for the *Westlands Solar Park Master Plan and WSP Gen-Tie Corridors Plan* (State Clearinghouse No. 2013031043) (Westlands Water District 2017) and shown in WSP Draft Program EIR Figure ES-2 and Figure AG-1.

The approximately 21,000-acre Master Plan area is located in west-central Kings County. It is generally bounded by State Route 198 on the north, State Route 41 on the southeast, and the Fresno County line on the west. The eastern portion of the Master Plan area includes approximately 6,841 acres mapped pursuant to the FMMP as grazing land, with an additional 2,978 acres within the Master Plan boundary that were anticipated to be remapped to grazing land once an FMMP map update occurred (for a total of 9,819 acres of mapped grazing land). Once constructed, the WSP-South Gen-Tie line shown in WSP Draft Program EIR Figure ES-3 would connect grazing land within the WSP to the Gates Substation via a 350-foot-wide 230-kilovolt (kV) gen-tie corridor that would run parallel and adjacent to roadway right-of-way on the north side of Nevada Avenue (in Kings County) and Jayne Avenue (in Fresno County), commencing at a switching station on Nevada Avenue and continuing westward along the north side of the roadway for 11.5 miles to the Gates Substation (Westlands Water District 2017).

The WSP Master Plan anticipated that subareas within the WSP would incorporate energy storage systems into proposed facilities, assuming that typical systems would consist of battery, fuel cell, or compressed air systems in enclosures placed on concrete foundations that could be concentrated in specified locations (Westlands Water District 2017). However, the Master Plan is primarily a generation-focused plan, and also anticipated that "storage facilities would occupy well under 1 percent of the typical [subarea] site area." One percent of the Master Plan area mapped or expected to be mapped as grazing land would be approximately 98 acres, or approximately 38 percent of the size of the Project site.

**Table 4-1** presents an assessment of the potential Westlands Solar Park Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-1  
SCREENING SUMMARY: POTENTIAL WESTLANDS SOLAR PARK ALTERNATIVE**

| <b>Screening Considerations</b>  | <b>Pass/Fail</b> | <b>Rationale</b>   |
|--|------------------|--|
| Would the potential alternative meet most of the basic Project objectives?   | Pass             | This potential alternative would meet the Project purpose of reliably and economically receiving, storing, and discharging electric energy from the California Independent System Operator–controlled electric grid via an interconnection at the Gates Substation. It also would meet three of the five Project objectives identified in Section 2.2, <i>Project Purpose and Objectives</i> . Although the acreage would be insufficient to support development of up to 3 gigawatts of energy storage adjacent to the Gates Substation and would not be in Fresno County, it would support state policies, increase energy storage capacity at the Gates Substation, and minimize environmental impacts.   |
| Would the potential alternative be potentially feasible?   | Fail             | The length of the gen-tie that would be needed to physically connect an energy storage facility on the Westlands Solar Park site would entail substantial construction costs and require the Applicant to secure a right-of-way from one or more landowners along the path and to acquire or otherwise obtain site control to the alternative site. These factors would add development costs and complexity. Reliability concerns also increase as the length of an overhead line increases. For length of gen-tie–related reasons, Fresno County has previously determined that it would not be feasible to pursue a project on a site that would require more than 5 miles of new gen-tie line (Fresno County 2020). The same conclusion is appropriate here. |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Fail             | A Westlands Solar Park Alternative would not avoid or substantially reduce the Project’s potential significant impact on biological resources or relating to inadvertent discovery of cultural resources, paleontological resources, hazards and hazardous materials, water quality, construction noise, transportation, or water supplies.  |
| Would implementation of the proposed alternative be remote or speculative?   | Fail             | The Westlands Solar Park Master Plan is focused on renewable energy generation, with energy storage as a secondary priority. Dedication of the necessary acreage to a stand-alone energy storage project would detract from achievement of the underlying vision for the Master Plan. Further, it would be remote or speculative to assume that the Applicant would incur the additional complication, expense, and delay involved in pursuing this alternative for a project only 38% the size of the Project as proposed.  |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would be infeasible and remote or speculative and because it would not avoid or substantially reduce one or more potential significant impacts of the Project.*

### 4.2.1.2 Alternative Technologies

As proposed, the Project would consist of either a lithium-ion battery option or a lithium-ion and iron-flow storage option. Because energy can be stored in a variety of ways, the County considered whether energy storage technologies different than the ones proposed could meet the screening criteria.

#### **Compressed-Air Energy Storage**

In a compressed-air energy storage system, electricity is used during low-demand periods to compress air at up to 1,000 pounds per square inch and inject it for storage underground (USEPA 2022; PG&E 2023). When energy demand is highest, the stored compressed air would be used to

power a generator. Salt caverns are used to store compressed air in Alabama; however, such formations are not common in PG&E's territory (PG&E 2023) and are not found in Fresno County (California Division of Mines 1958). PG&E is conducting a pilot project to determine whether the underground porous rock formations more commonly found in its territory could be a suitable storage alternative for a compressed air energy storage system. The U.S. Department of Energy (DOE) issued a final environmental assessment in 2014 (DOE 2014) and commissioning of the 300-megawatt (MW) capacity project was announced in 2021 (Power Technology 2021). The preparers of this Draft EIR are unaware of the existence of any compressed-air energy storage system larger than PG&E's 300 MW project in San Joaquin County, or the location of a suitable site elsewhere in California other than the King Island site, located near Stockton, that PG&E also explored in siting its pilot project (PG&E 2018).

**Table 4-2** presents an assessment of the potential Compressed-Air Energy Storage Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-2**  
**SCREENING SUMMARY: POTENTIAL COMPRESSED-AIR ENERGY STORAGE ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative meet most of the basic Project objectives?   | Fail      | This potential alternative would not meet most of the Project objectives because it would not approach the up-to-3 gigawatts of energy storage capacity available adjacent to the Gates Substation, would not increase local energy storage capacity at the Gates Substation, and would not develop an energy storage facility in Fresno County.   |
| Would the potential alternative be potentially feasible?   | Fail      | Although the technical feasibility of a 300-megawatt project in San Joaquin County has been established, it is not clear that a compressed air storage system could be developed as an alternative to the Project successfully within a reasonable period of time because PG&E's pilot project took nearly a decade and has not been repeated elsewhere at the demonstrated scale, and because the economic viability of such an undertaking at Project scale is untested and unproven.  |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Unclear   | PG&E's 300-megawatt pilot project initially assumed a minimum of 40 acres of surface area for both the permanent power plant and the well field over the reservoir. As the project was refined, it became clear that the preferred approach would be to separate the wells and power plant site by up to 5 miles, with the well field remaining over the reservoir and connected by an air pipeline to an approximately 20-acre power plant site. Scaling to approximate the surface area needed to accommodate comparable capacity, as the Project would require more than 460 acres. As a result of this increased area of disturbance, a potential Compressed-Air Energy Storage Alternative would not avoid or substantially lessen any of the potential significant impacts of the Project. |
| Would implementation of the proposed alternative be remote or speculative?   | Fail      | No Compressed-Air Energy Storage Alternative of comparable capacity to the Project has been developed anywhere in the state. Further, the Applicant's renewable energy portfolio does not include compressed air. It would be both unreasonable and speculative to assume that the Applicant would develop this expertise within a reasonable time frame if a Compressed-Air Energy Storage Alternative were carried forward and ultimately approved.  |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would not meet most of the objectives of the Project, it would not be potentially feasible, and its implementation would be remote or speculative.*

### **Flywheel Energy Storage**

A *flywheel* is a type of rotor. In a flywheel energy storage system, electricity is used to accelerate a rotor, through which the energy is conserved as kinetic rotational energy; when the energy is needed, the spinning force of the flywheel is used to turn a generator (USEPA 2022). The Energy Research and Development Division of the California Energy Commission (CEC) produced its *Final Project Report on Flywheel Systems for Utility Scale Energy Storage in 2019* (CEC 2019). The final report evaluated a kinetic energy storage system based on advanced flywheel technology from Amber Kinetics to determine its commercial viability for utility-scale energy storage. After the company’s commercial release of the M32 flywheel product in October 2018, the CEC’s final report found the technology promising. A data sheet about the product published by its manufacturer states, “Amber Kinetics is the industry-leader in manufacturing grid-scale kinetic energy storage systems (KESS)... [and] the only provider of long-duration flywheel energy storage” (Amber Kinetics 2023). It further states, “The M32 can be scaled up to tens or hundreds of megawatts for grid connected or grid forming applications” (Amber Kinetics 2023).

The installation and maintenance manual for the product cautions that “the site must not have any buried gas or water lines” and advises that multi-flywheel installations require appropriate depth below ground surface (at approximately 70 inches, nearly 6 feet deep), height above ground surface (12 inches), and clearance between units (36 inches) (Amber Kinetics 2018). The ground surface must be level (with a grade of no more than 1 percent), smooth enough to provide even support across the entire base of each unit, and “compressed to ensure that the soil can support a uniform load of approximately 3.5 pounds per square inch... without setting” (Amber Kinetics 2018).

A flywheel alternative would be developed on the Project site and connect to the Gates Substation via the proposed gen-tie line. Site requirements and other aspects and assumptions about a flywheel alternative are assumed to be the same as for the Project except for the energy storage technology-specific needs noted above.

**Table 4-3** presents an assessment of the potential Flywheel Energy Storage Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-3  
SCREENING SUMMARY: POTENTIAL FLYWHEEL ENERGY STORAGE ALTERNATIVE**

| <b>Screening Considerations</b>  | <b>Pass/Fail</b> | <b>Rationale</b>   |
|--|------------------|--|
| Would the potential alternative meet most of the basic Project objectives? | Pass             | This potential alternative would meet most of the Project objectives.  |
| Would the potential alternative be potentially feasible?                   | Pass             | Utility-scale flywheel technology is an emerging technology, the success of which has not been demonstrated at a scale sufficient to conclude that it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. However, there also is insufficient evidence to support a conclusion that it would not be feasible. Accordingly, for purposes of this Draft EIR, the County has determined that it would be potentially feasible. |



**TABLE 4-3 (CONTINUED)**  
**SCREENING SUMMARY: POTENTIAL FLYWHEEL ENERGY STORAGE ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Fail      | A flywheel alternative would not have the potential to avoid or substantially lessen any of the Project's significant impacts because it would require site disturbance, including both above- and belowground surface, on the same land that would be affected by the Project, and because similar types of hazardous materials would be required for its construction, operation, and maintenance for which a reasonably foreseeable upset and accident condition could involve the release of hazardous materials into soil or groundwater, thereby affecting people or the environment. |
| Would implementation of the proposed alternative be remote or speculative?   | Fail      | Utility-scale flywheel technology is an emerging technology that has not been developed at the scale of the Project anywhere in the state and the Applicant's renewable energy portfolio does not demonstrate an expertise with it. It would be both unreasonable and speculative to assume that the Applicant would develop the necessary expertise within a reasonable time frame if a flywheel energy storage alternative were carried forward and ultimately approved.  |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would not avoid or substantially reduce significant impacts of the Project and because its implementation would be remote or speculative.*

## Hydrogen Energy Storage

*Hydrogen energy storage* is a form of chemical energy storage that involves electrical power conversion into hydrogen, followed by later re-electrification. It is conceptually similar to battery energy storage in that both can offset peak electricity demand charges by storing surplus energy generated during low-demand periods and supplying unused energy as needed. Once produced, hydrogen can be “tanked like propane or turned into a powder. It can physically be stored as either a gas or liquid. As a gas, hydrogen storage requires high-pressure tanks. Liquid hydrogen requires storage at cryogenic temperatures. As a solid, hydrogen can be stored by absorption either within a solid or on the surface of solids” (Energy Link LLC 2023; Fuel Cell & Hydrogen Energy Association 2023). Some authors report that hydrogen can be re-electrified in fuel cells with efficiencies up to 50 percent (Energy Link LLC 2023; Energy Storage Association 2023); other authors report that “hydrogen storage based on electrolysis and fuel cell systems is generally around 40%, meaning that approximately 40% of the energy used to produce hydrogen with electricity can be turned back into electricity. This is somewhat low as compared to 70–90% for Li-ion battery storage” (Sandia National Laboratories 2022).

Hydrogen energy storage can support short-term load balancing. For example, when darkness falls and solar energy's contribution ramps down, grid operators can turn on hydrogen generators to provide power to the grid until the solar energy supply recovers in the morning. However, the real benefit of hydrogen storage seems to be for longer term, seasonal energy storage (e.g., to provide power back to the grid during cold or cloudy winter months when heating needs and other demands create a strain) (NREL 2020; Sandia National Laboratories 2022; Fuel Cell & Hydrogen Energy Association 2023). As an energy storage technology, “it's more cost-effective to store renewable power for short durations, such as two or four hours, with a battery energy storage system” (Power 2021). This may be in part because “the power components associated with hydrogen systems are generally much more expensive than other storage options” (Sandia National Laboratories 2022). For longer term storage, though, such as weeks, months, or seasons,

hydrogen storage is much more cost-effective than battery energy storage (Power 2021). Researchers at Sandia National Laboratories agree: “Hydrogen is generally not practical for small quantities of energy storage but is cheaper than batteries for storage durations above about 12 hours, despite the lower roundtrip efficiency and cost of electrolyzers/fuel cells” (Sandia National Laboratories 2022).

Commercial use of hydrogen storage is being tested. For example, Mitsubishi Power is pursuing a project in Utah called the Advanced Clean Energy Storage Project, which will use 220 MW of electrolysis to convert renewable power into green hydrogen for storage in two underground salt caverns (each the size of the Empire State Building) located beneath the power plant. The company estimates that the caverns will each be capable of storing enough green hydrogen to provide 150 gigawatt-hours (GWh) of clean energy and claims that more than 40,000 shipping containers of lithium-ion batteries would be needed to produce an equivalent number of GWh (Power 2021). Nonetheless, industry “challenges related to upfront costs for electrolyzers and fuel cells, hydrogen distribution, roundtrip efficiency, and safety remain” (Sandia National Laboratories 2022).

**Table 4-4** presents an assessment of the potential Hydrogen Energy Storage Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-4**  
**SCREENING SUMMARY: POTENTIAL HYDROGEN ENERGY STORAGE ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative meet most of the basic Project objectives?   | Pass      | This potential alternative would meet most of the Project objectives.  |
| Would the potential alternative be potentially feasible?   | Fail      | Hydrogen energy storage has lower efficiency and higher up-front cost than other energy storage technologies (Sandia National Laboratories 2022). Accordingly, the preparers of this EIR have determined that this potential alternative would not be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.  |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | A hydrogen energy storage alternative could have a smaller footprint than the Project, thereby having the potential to avoid or substantially lessen significant impacts of the Project that are disturbance-based.  |
| Would implementation of the proposed alternative be remote or speculative?   | Fail      | Utility-scale hydrogen energy storage is an emerging technology with re-electrification efficiencies between 50 and 60 percent. Further, the technology is not within the Applicant’s current renewable energy portfolio, and it would be both unreasonable and speculative to assume that the Applicant would prioritize the development of the necessary expertise within a reasonable time frame if a hydrogen energy storage alternative were carried forward and ultimately approved. |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would not avoid or substantially reduce significant impacts of the Project and because its implementation would be remote or speculative.*

## 4.3 Alternatives Evaluated in Detail

### 4.3.1 No Project Alternative

CEQA Guidelines Section 15126.6(e) requires consideration of a no project alternative. This analysis discusses the existing conditions at the time the notice of preparation was published, as well as what reasonably would be 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.

If the No Project Alternative is implemented, then energy storage would not be developed at the Gates Substation, irrigated agricultural production (orchard crops such as citrus and almonds) would continue with reliance on an on-site well on the northernmost Project site parcel (Assessor’s Parcel Number [APN] 085-040-58), and the remaining Project site parcels (APNs 085-040-36 and 085-040-37) would continue to be used for non-irrigated agriculture such as winter wheat or left fallow unless and until a different use is proposed. The Project site is designated “Agriculture” as shown on Fresno County General Plan Countywide Land Use Diagram Figure LU-1a and is zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size). If the Project were not approved, then other uses consistent with the AE-40 zoning designation could be made on one or more of the parcels that compose the Project site. Pursuant to Fresno County Ordinance Code Section 816, uses (among others) that are allowed by right without a permit relate to livestock, poultry, and crops; home occupations; agricultural products; apiaries; kennels; and welding and blacksmith shops. No such competing proposals for site use are before the County. Accordingly, rather than speculating as to possible other uses, the analysis of the No Project Alternative in this Draft EIR assumes a no-development/no-Project scenario where the existing agricultural use is continued as it exists under pre-Project conditions.

Under a no-development scenario, the property would continue in agricultural use and the existing environmental setting would be maintained. Changes to that setting, including adverse impacts on the landscape (such as agricultural land use, wildlife habitat conditions, and the existing presence or absence of unknown cultural resources) and the environment (such as Project-related construction noise, traffic, and air pollutant emissions) and potential benefits associated with enhanced grid resiliency would not be realized from the proposed site development.

**Table 4-5** presents an assessment of the No Project Alternative relative to the key considerations used to screen potential alternatives.

**TABLE 4-5  
SCREENING SUMMARY: NO PROJECT ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative meet most of the basic Project objectives? | Fail      | The No Project Alternative would not meet any of the Project objectives.  |
| Would the potential alternative be potentially feasible?                   | Pass      | The No Project Alternative could be accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors because it is expected to be what would occur if the Project were not approved. |

**TABLE 4-5 (CONTINUED)**  
**SCREENING SUMMARY: NO PROJECT ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | The No Project Alternative would avoid all of the Project's potential significant impacts. It also would cause no new impacts on the physical environment; i.e., existing land uses would continue to affect environmental conditions as they currently do. |
| Would implementation of the proposed alternative be remote or speculative?   | Pass      | The No Project Alternative is neither remote nor speculative; to the contrary, it is what is expected to occur if the Project is not approved.  |

**CONCLUSION:** *Although the No Project Alternative fails to satisfy all of the screening criteria, it nonetheless has been carried forward for more detailed review in accordance with the requirements of CEQA.*

### 4.3.2 Alternative 1, Noncontracted Lands Alternative

The Project would occupy up 260 acres of a 318-acre site comprising three parcels (APNs 085-040-36, 085-040-37, and 085-040-58). Of the 260 acres, the Applicant expects to use approximately 208 acres for the permanent Project footprint, with the remaining 52 acres available for construction and “additional flexibility” (Key Energy Storage LLC 2022). The northernmost of these parcels (APN 085-040-58) is subject to Williamson Act Contract 2068. The southernmost parcels (APNs 085-040-36 and 085-040-37S, each approximately 80 acres) were formerly subject to the same Williamson Act contract as the northern parcel but were unenrolled from the program in 2019. Accordingly, the southern half of the Project site is not currently subject to a Williamson Act contract.

Alternative 1 would occupy up to 160 acres comprising the southernmost (noncontracted) Project site parcels. A 50-foot buffer would be maintained along the northernmost boundary of the alternative site to separate energy storage–related activities from the adjacent property. The northernmost (Williamson Act contracted) Project site parcel would remain outside the Alternative 1 site and in irrigated agricultural production with continued reliance on the on-site well. The Alternative 1 energy storage system facility and associated on-site support facilities would be substantially similar to the Project as proposed (including optionality between lithium ion and a combination of lithium ion and iron flow technology) except as noted below. Site access would (like the Project) be provided from West Jayne Avenue via agricultural roads along the eastern and western boundaries of the northernmost parcel. Alternative 1 would differ from the Project in the following ways:

- The Alternative 1 site would be approximately 62 percent of the size of the site as proposed and 77 percent of the Project’s anticipated permanent footprint.
- The Alternative 1 site would accommodate between 62 and 77 percent of the storage capacity of the Project as proposed although, consistent with footnote 1 in Chapter 2, *Project Description*, continued evolution of the energy storage industry could result in improved storage efficiencies such that the total storage capacity of Alternative 1 could be greater than 77 percent of the Project as proposed.

- The on-site substation would be shifted south relative to the proposed location, onto the Alternative 1 site, and fewer than the 5.14 acres needed to support the Project could be needed to support Alternative 1, thereby maximizing the energy storage potential of the Alternative 1 site.
- The proposed, approximately 0.5-mile, 500 kV overhead gen-tie line connecting the site to the Gates Substation would be approximately 0.5 mile longer than the proposed line (for a total length of up to 1 mile) to reach the Alternative 1 site across the northernmost Project parcel. As with the Project, the number and height of the gen-tie line poles, as well as the type of conductor, would be finalized during detailed design.
- A drainage swale would be constructed along the eastern boundary of the Alternative 1 site and a retention basin would be constructed at the southeast corner of APN 085-040-37. No retention basin would be constructed at the southeast corner of APN 085-040-58 because this parcel would be outside the Alternative 1 site boundary.
- Two phases of construction would be needed instead of up to four, with a resulting overall construction period that would last up to 61 months (i.e., approximately 80 percent of the Project’s potential maximum construction period of 76 months). The duration of the decommissioning period and anticipated water demand associated with both construction and decommissioning also would be reduced.
- Although the same number of construction workers would be needed for Alternative 1, construction vehicle trips would be scaled in proportion to the reduced site size.
- No water from the existing well on the northernmost Project parcel would be used for Alternative 1’s energy storage project purposes.

**Table 4-6** presents an assessment of Alternative 1 relative to the key considerations used to screen potential alternatives and explains how this alternative met the screening criteria.

**TABLE 4-6  
SCREENING SUMMARY: ALTERNATIVE 1**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative meet most of the basic Project objectives?   | Pass      | Alternative 1 would meet all of the Project objectives.   |
| Would the potential alternative be potentially feasible?   | Pass      | Alternative 1 would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Under Alternative 1, storage capacity could be reduced to 77 percent of the Project’s capacity based on currently available technology. However, because the energy storage industry is continuing to evolve, technological advancements may make it possible for the same up to 3-gigawatt capacity to be achieved in the smaller area. |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | Alternative 1 would avoid or substantially reduce potential significant impacts of the Project through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; cultural resources due to inadvertently discovered historical or archaeological resources, human remains, and/or archaeological resources that are also tribal cultural resources; and biological resources, including San Joaquin kit fox and other special-status wildlife species, as well as nesting birds.  |

**TABLE 4-6 (CONTINUED)**  
**SCREENING SUMMARY: ALTERNATIVE 1**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would implementation of the proposed alternative be remote or speculative? | Pass      | No, the implementation of Alternative 1 would be neither remote nor speculative. |

**CONCLUSION: Alternative 1 passes all screening criteria and has been carried forward for more detailed review.**

### 4.3.3 Alternative 2, Reduced Project Alternative

The Project would occupy up to 260 acres of a 318-acre site with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and related infrastructure. Of the 260 acres, the Applicant expects to use approximately 208 acres for the permanent Project footprint, with the remaining 52 acres available for construction and “additional flexibility” (Key Energy Storage LLC 2022). Operation of the Project as proposed could result in a significant impact on the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Alternative 2 would occupy up to 130 acres of a 318-acre site with an anticipated operating footprint of 104 acres. The remaining 26 acres would be available for construction and flexibility. Alternative 2 would reduce by half the area that the Project proposes to develop with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and other Project infrastructure.

**Table 4-7** presents an assessment of Alternative 2 relative to the key considerations used to screen potential alternatives and explains how this alternative met the screening criteria.

**TABLE 4-7**  
**SCREENING SUMMARY: ALTERNATIVE 2**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative meet most of the basic Project objectives? | Pass      | Alternative 2 would meet all of the Project objectives.  |
| Would the potential alternative be potentially feasible?                   | Pass      | Alternative 2 would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Under Alternative 2, storage capacity could be reduced to 50 percent of the Project’s capacity based on currently available technology. However, because the energy storage industry is continuing to evolve, technological advancements may make it possible for Alternative 2 to result in energy storage capacity greater than 50% of the Project as proposed. |

**TABLE 4-7 (CONTINUED)**  
**SCREENING SUMMARY: ALTERNATIVE 2**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | Alternative 2 would substantially reduce the Project's significant impact to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; cultural resources due to inadvertently discovered historical or archaeological resources, human remains, and/or archaeological resources that are also tribal cultural resources; and biological resources, including San Joaquin kit fox and other special-status wildlife species, as well as nesting birds. |
| Would implementation of the proposed alternative be remote or speculative?   | Pass      | No, the implementation of Alternative 2 would be neither remote nor speculative.   |

**CONCLUSION:** *Alternative 2 passes all screening criteria and has been carried forward for more detailed review.*

## 4.4 Comparison Methodology

The following methodology was used to compare alternatives in this Draft EIR:

- **Step 1: Identify Alternatives.** The alternatives screening and development process described in Section 4.1 was used to identify potential alternatives to the Project. Among the many potential alternatives initially considered, Alternative 1, Alternative 2, and the No Project Alternative were carried forward for detailed environmental review.
- **Step 2: Determine Environmental Impacts.** Potential environmental impacts of the Project are identified and analyzed in detail in Chapter 3, including potential direct, indirect, and cumulative impacts related to construction, operation and maintenance, and decommissioning. Potential environmental impacts of the alternatives are identified and analyzed below.
- **Step 3: Compare the Project with the Alternatives.** Environmental impacts of the Project were compared to those of Alternative 1, Alternative 2, and the No Project Alternative to make a preliminary determination of the Environmentally Superior Alternative.

## 4.5 Comparison of Alternatives

The comparison of alternatives provided in **Table 4-8, Summary of Impacts of the Project and Alternatives**, is designed to satisfy the requirements of CEQA Guidelines Section 15126.6(d), which states:

*The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

## 4.6 Environmentally Superior Alternative

Under CEQA, the *environmentally superior alternative* is the alternative with the least adverse impacts on the project area and its surrounding environment. The No Project Alternative is considered the environmentally superior alternative for CEQA purposes because it would avoid all impacts of the Project. However, the No Project Alternative would fail to meet the basic objectives of the Project. In addition, the No Project Alternative would not offset greenhouse gas emissions associated with nonrenewable energy use the way the Project would make possible. Because the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives.

Determining an environmentally superior alternative can be difficult because of the many factors that must be balanced. Nonetheless, at this draft stage, Alternative 1 has been determined to be preferred because, relative to the Project, it would avoid potential significant impacts of the Project on water quality and hazardous materials related to the disturbance of known contaminated soil. Alternative 1 would reduce impacts relative to the Project in five resource areas: Agriculture and Forestry Resources, Air Quality, Energy, Hazards and Hazardous Materials, and Hydrology and Water Quality. However, Alternative 1 would have a greater environmental impact than the Project in one area: Paleontological Resources.



**TABLE 4-8  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*  |
|---|--|---|--|
| <p><b>Aesthetics</b></p> <p><b>Impact 3.2-1:</b> LTS. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.</p> <p><b>Impact 3.2-2:</b> LTS. The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area.</p> <p><b>Impact 3.2-3:</b> LTS. The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.2-1:</b> No impact (less than the Project) because no energy storage project-related development would occur on-site that could degrade the existing visual character or quality of public views of the site and its surroundings.</li> <li><b>Impact 3.2-2:</b> No impact (less than the Project) because no energy storage project-related development would occur on-site that could degrade the existing visual character or quality of public views of the site and its surroundings.</li> <li><b>Impact 3.2-3:</b> No impact (less than the Project) because the No Project Alternative would not cause any incremental impact that could combine with the incremental impacts of past, present, or reasonably foreseeable future projects to cause or contribute to an adverse cumulative effect.</li> </ul>  | <p><b>Overall: (same as than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.2-1:</b> LTS (same as the Project) because, although elements of the energy systems would be visible, limited public views of the energy storage project would be available from publicly accessible vantage points. The visual character of the southern two Project site parcels would be altered compared to existing conditions. For reasons similar to those described for the Project, Alternative 1 would result in a substantially similar impact related to alteration of the visual character of the site.</li> <li><b>Impact 3.2-2:</b> LTS (same as the Project) because Alternative 1 would create new sources of light or glare but would not cause a significant impact on day or nighttime views in the area.</li> <li><b>Impact 3.2-3:</b> LTS (same as the Project) because Alternative 1 would cause the incremental contributions noted above, but none would be cumulatively considerable for reasons similar to those described for the Project as proposed.</li> </ul>  | <p><b>Overall: (same as than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.2-1:</b> LTS (same as the Project) because, although elements of the energy systems would be visible, limited public views of the energy storage project would be available from publicly accessible vantage points. The visual character of the site would be altered compared to existing conditions, but a significant adverse impact related to alteration of the visual character of the site would not result.</li> <li><b>Impact 3.2-2:</b> LTS (same as the Project) because Alternative 2 would create new sources of light or glare but would not cause a significant impact on day or nighttime views in the area.</li> <li><b>Impact 3.2-3:</b> LTS (same as the Project) because Alternative 2 would cause the incremental contributions noted above, but none would be cumulatively considerable for reasons similar to those described for the Project as proposed.</li> </ul>   |
| <p><b>Agriculture and Forestry Resources</b></p> <p><b>Impact 3.3-1:</b> LTS. The Project would convert Prime Farmland to non-agricultural use.</p> <p><b>Impact 3.3-2:</b> LTS. The Project would be compatible with an existing Williamson Act contract.</p> <p><b>Impact 3.3-3:</b> LTS. The Project would involve changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-4:</b> LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-5:</b> LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect related to an existing Williamson Act contract.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.3-1:</b> No impact (less than the Project) because no energy storage project-related development would occur on-site that could convert Prime Farmland to non-agricultural use.</li> <li><b>Impact 3.3-2:</b> No impact (less than the Project) because the northernmost Project site parcel would remain subject to a Williamson Act contract - no contract cancellation would occur as a result of energy storage project-related development on the site.</li> <li><b>Impact 3.3-3:</b> No impact (less than the Project) because no changes to the existing environment would occur that could result in farmland conversion.</li> <li><b>Impact 3.3-4:</b> No impact (less than the Project) because the No Project Alternative would cause no incremental impacts that could contribute to cumulative impacts.</li> <li><b>Impact 3.3-5:</b> No impact (less than the Project) because the No Project Alternative would cause no incremental impacts that could contribute to cumulative impacts.</li> </ul> | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.3-1:</b> LTS (similar to but less than the Project) because Alternative 1 would constitute approximately 62 percent of the site and approximately 77 percent of the anticipated permanent footprint relative to that of the Project. Therefore, although Alternative 1 also would have an LTS impact, it would convert less Prime Farmland to non-agricultural use.</p> <p><b>Impact 3.3-2:</b> No impact (less than the Project) because Alternative 1 would avoid the Project's less-than-significant impact related to Williamson Act contracting.</p> <p><b>Impact 3.3-3:</b> LTS (similar to but less than the Project). Alternative 1's smaller site would reduce overall impacts that could result in conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-4:</b> LTS (similar to but less than the Project) because Alternative 1's less-than-significant contribution to cumulative impacts related to conversion of Farmland to non-agricultural use would be reduced relative to the Project.</p> <p><b>Impact 3.3-5:</b> No impact (less than the Project) because Alternative 1 would avoid the Project's less-than-significant impact related to an existing Williamson Act contract and thus would not contribute to cumulative effects regarding conflicts with Williamson Act contracts.</p> | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.3-1:</b> LTS (similar to but less than the Project) because, compared to the Project, Alternative 2 would result in fewer impacts on protected farmlands given the reduced footprint.</p> <p><b>Impact 3.3-2:</b> LTS (same as the Project) because the development of Alternative 2 would not be limited to the southern Project site parcels; therefore, Alternative 2 could result in the same less-than-significant impact related to Williamson Act contract compatibility.</p> <p><b>Impact 3.3-3:</b> LTS (similar to but less than the Project). Alternative 2's smaller site would reduce overall impacts that could result in conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-4:</b> LTS (similar to but less than the Project) because Alternative 2's less-than-significant contribution to cumulative impacts related to conversion of Farmland to non-agricultural use would be reduced relative to the Project.</p> <p><b>Impact 3.3-5:</b> LTS (same as the Project) because Alternative 2's incremental contribution to cumulative impacts related to Williamson Act contract status would not be cumulatively considerable for the same reasons that the Project's contribution would not be cumulatively considerable.</p> |
| <p><b>Air Quality</b></p> <p><b>Impact 3.4-1:</b> LTS. Criteria pollutant emissions generated by Project construction, operation, and decommissioning would not conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-2:</b> LTS. Project activities would generate emissions that would not contribute to violations of ambient air quality standards.</p> <p><b>Impact 3.4-3:</b> LTS. The Project could expose sensitive receptors to substantial pollutant concentrations.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.4-1:</b> No impact (less than the Project) because no criteria pollutant emissions would be generated that could conflict with SJVAPCD's air quality plans.</li> <li><b>Impact 3.4-2:</b> No impact (less than the Project) because no emissions would be generated that could contribute to violations of ambient air quality standards.</li> </ul>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.4-1:</b> LTS (similar to but less than the Project) because Alternative 1-related development would occupy fewer acres than the Project, resulting in less surface disturbance, less construction dust, and reduced overall construction, operation and maintenance, and decommissioning emissions compared to the Project. Criteria pollutant emissions generated by Alternative 1 would be similar to but less than the project, and would not conflict with SJVAPCD's air quality plans.</li> </ul>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.4-1:</b> LTS (similar to but less than the Project) because Alternative 2 would reduce energy storage-related disturbance by half relative to the Project, resulting in incrementally less emissions compared to the Project, including criteria pollutant emissions.</li> <li><b>Impact 3.4-2:</b> LTS (similar to but less than the Project) because the reduced footprint would generate incrementally fewer emissions than the Project and, like the Project, would not contribute to violations of ambient air quality standards.</li> </ul>  |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*  |
|--|--|--|--|
| <p><b>Impact 3.4-4:</b> LTS. Project construction and decommissioning activities could expose sensitive receptors to the risk of contracting Valley Fever.</p> <p><b>Impact 3.4-5:</b> LTS. The Project would generate odor or dust emissions.</p> <p><b>Impact 3.4-6:</b> LTS. The Project's criteria pollutant emissions would not be a cumulatively considerable contribution to a significant cumulative effect due to a conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-7:</b> LTS. The Project's generation of emissions would not contribute to a significant adverse cumulative impact due to violations of ambient air quality standards.</p> <p><b>Impact 3.4-8:</b> LTS. The Project would not cause or contribute to a significant cumulative impact due to exposure of sensitive receptors to substantial pollutant concentrations.</p> <p><b>Impact 3.4-9:</b> LTS. The Project would not cause or contribute to a significant adverse cumulative impact due to the generation of odor or dust emissions.</p>  | <p><b>Impact 3.4-3:</b> No Impact (<i>less</i> than the Project) because no pollutants would be emitted that could expose sensitive receptors to substantial concentrations.</p> <p><b>Impact 3.4-4:</b> No Impact (<i>less</i> than the Project) because no energy storage-related activities would occur on-site that could expose sensitive receptors to the risk of contracting Valley Fever.</p> <p><b>Impact 3.4-5:</b> No Impact (<i>less</i> than the Project) because no energy storage-related activities would occur on-site that could generate odor or dust emissions.</p> <p><b>Impact 3.4-6:</b> No Impact (<i>less</i> than the Project) because no energy storage-related activities would occur on-site that could emit criteria pollutants that could cause or contribute to any cumulative effect due to a conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-7:</b> No Impact (<i>less</i> than the Project) because no energy storage-related activities would occur on-site that would cause emissions that could cause or contribute to a cumulative impact due to violations of ambient air quality standards.</p> <p><b>Impact 3.4-8:</b> No Impact (<i>less</i> than the Project) because no energy storage-related activities would occur on-site that would expose sensitive receptors to substantial pollutant concentrations and thereby cause or contribute to a significant cumulative effect.</p> <p><b>Impact 3.4-9:</b> No Impact (<i>less</i> than the Project) because no energy storage-related activities would occur on-site that would cause odors or dust that could cause or contribute to a significant cumulative impact due to such emissions.</p> | <p><b>Impact 3.4-2:</b> LTS (<i>similar to but less</i> than the Project) because the reduced footprint would generate incrementally fewer emissions than the Project and, like the Project, would not contribute to violations of ambient air quality standards.</p> <p><b>Impact 3.4-3:</b> LTS (<i>less</i> than the Project) because Alternative 1 would be developed exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and so would have a reduced (and still less-than-significant) risk of exposing sensitive receptors to substantial pollutant concentrations.</p> <p><b>Impact 3.4-4:</b> LTS (<i>less</i> than the Project) because Alternative 1 would be developed exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and so would have a reduced (and still less-than-significant) impact related to exposure of sensitive receptors to the risk of contracting Valley Fever.</p> <p><b>Impact 3.4-5:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 1-related activities would occur within a smaller area than the Project, resulting in less surface disturbance, construction, or other activities that would generate odor or dust emissions.</p> <p><b>Impact 3.4-6:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would generate fewer criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-7:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 1 would generate fewer criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-8:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 1 would generate fewer emissions than the Project and would not contribute to a significant adverse cumulative impact related to violations of ambient air quality standards.</p> <p><b>Impact 3.4-9:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 1 would result in reduced exposure of sensitive receptors to substantial pollutant concentrations, and thus, a reduced contribution to related cumulative impacts.</p> <p><b>Impact 3.4-9:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would result in fewer odors and less dust, and therefore would result in a reduced contribution to related cumulative impacts.</p> | <p><b>Impact 3.4-3:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 could be developed within a subset of the Project site and thus would have the same potential impact as the Project exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and would have a reduced (and still less-than-significant) risk of exposing sensitive receptors to substantial pollutant concentrations.</p> <p><b>Impact 3.4-4:</b> LTS (<i>less</i> than the Project) because Alternative 2 would be developed exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and so would have a reduced (and still less-than-significant) impact related to exposure of sensitive receptors to the risk of contracting Valley Fever.</p> <p><b>Impact 3.4-5:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2-related activities would occur within a smaller area than the Project, resulting in less surface disturbance, construction, or other activities that would generate odor or dust emissions.</p> <p><b>Impact 3.4-6:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would generate fewer criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-7:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would generate fewer emissions than the Project and would not contribute to a significant adverse cumulative impact related to violations of ambient air quality standards.</p> <p><b>Impact 3.4-8:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would result in reduced exposure of sensitive receptors to substantial pollutant concentrations, and thus, a reduced contribution to related cumulative impacts.</p> <p><b>Impact 3.4-9:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would result in fewer odors and less dust, and therefore would result in a reduced contribution to related cumulative impacts.</p> |
| <p><b>Biological Resources</b></p> <p><b>Impact 3.5-1:</b> LTSM. The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. The implementation of Mitigation Measure 3.5-1 (Protection of San Joaquin Kit Fox), Mitigation Measure 3.5-2 (Worker Environmental Awareness Training and Best Management Practices for Biological Resources), and Mitigation Measure 3.5-3 (Protection of Nesting Birds) would be required.</p> <p><b>Impact 3.5-2:</b> LTS. The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p> <p><b>Impact 3.5-3:</b> LTSM. The Project would conflict with General Plan Goal OS-E, which protects wildlife resources. The implementation of Mitigation Measure 3.5-1 (Protection of San Joaquin Kit Fox), Mitigation Measure 3.5-2 (Worker Environmental Awareness Training and Best Management Practices for Biological Resources), and Mitigation Measure 3.5-3 (Protection of Nesting Birds) would be required.</p> | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.5-1:</b> No Impact (<i>less</i> than the Project) because no energy storage project-related direct or indirect impacts on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, would occur.</p> <p><b>Impact 3.5-2:</b> No Impact (<i>less</i> than the Project) because no energy storage project-related interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, and no impediment of the use of native wildlife nursery sites, would occur.</p> <p><b>Impact 3.5-3:</b> No Impact (<i>less</i> than the Project) because no energy storage project-related conflict with General Plan Goal OS-E would occur.</p> <p><b>Impact 3.5-4:</b> No Impact (<i>less</i> than the Project) because no energy storage project-related conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (an adopted Habitat Conservation Plan) would occur.</p> <p><b>Impact 3.5-5:</b> No Impact (<i>less</i> than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact on any species identified as a</p>   | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.5-1:</b> LTSM (<i>less</i> than the Project) because Alternative 1-related development would occupy fewer acres than the Project, resulting in reduced risk to kit fox of mortality or injury caused by construction vehicles or ground disturbance, from disturbance by night lighting and illness from Valley Fever, and from on-site activities that may draw predators. However, Mitigation Measures 3.5-1 and 3.5-2 would still be required. Although Alternative 2 would reduce the Project's impact on Swainson's hawk foraging habitat and the risk of potential loss of an active migratory bird nest by reducing the number of acres affected by (and level of on-site activity required for) energy storage-related development, Mitigation Measure 3.5-2 would still be required for Swainson's hawk and Mitigation Measure 3.5-3 would be required for nesting birds.</p> <p><b>Impact 3.5-2:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 1 would restrict wildlife movement through a smaller area during construction. During operation and maintenance, the perimeter of the Alternative 1 site (like the Project) would be surrounded by chain-link fence with space underneath to allow passage by kit fox and other small mammals. Also like the Project, Alternative 1 would include low-profile battery structures and would</p>  | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.5-1:</b> LTSM (<i>less</i> than the Project) because Alternative 2-related development would occupy approximately half the acres of the Project, resulting in reduced risk to kit fox of mortality or injury caused by construction vehicles or ground disturbance, from disturbance by night lighting and illness from Valley Fever, and from on-site activities that may draw predators. However, Mitigation Measures 3.5-1 and 3.5-2 would still be required. Although Alternative 2 would reduce the Project's impact on Swainson's hawk foraging habitat and the risk of potential loss of an active migratory bird nest by reducing the number of acres affected by (and level of on-site activity required for) energy storage-related development, Mitigation Measure 3.5-2 would still be required for Swainson's hawk and Mitigation Measure 3.5-3 would be required for nesting birds.</p> <p><b>Impact 3.5-2:</b> LTS (<i>similar to but less</i> than the Project) because Alternative 2 would restrict wildlife movement through a smaller area during construction. During operation and maintenance, the perimeter of the Alternative 2 site (like the Project) would be surrounded by chain-link fence with space underneath to allow passage by kit fox and other small mammals. Also like the Project, Alternative 2 would include low-profile battery structures and would</p>   |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project   | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|--|---|---|---|
| <p><b>Impact 3.5-4:</b> LTS. The Project would not conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.</p> <p><b>Impact 3.5-5:</b> LTS. The Project would not cause or contribute to a potential significant cumulative impact by having 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 CDFW and USFWS.</p> <p><b>Impact 3.5-6:</b> LTS. The Project would not cause or contribute to any significant cumulative effect due to substantial interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p> <p><b>Impact 3.5-7:</b> LTS. The Project would not cause or contribute to any significant impact due to conflict with General Plan Goal OS-E, which protects wildlife resources.</p> <p><b>Impact 3.5-8:</b> LTS. The Project would not cause or contribute to any significant impact due to conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan.</p> | <p>candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS.</p> <ul style="list-style-type: none"> <li><b>Impact 3.5-6:</b> No impact (less than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact related to interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</li> <li><b>Impact 3.5-7:</b> No impact (less than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact related to a conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.</li> </ul>   | <p>not include reflective surfaces, and as a result, would minimally affect birds from collisions with Project structures.</p> <ul style="list-style-type: none"> <li><b>Impact 3.5-3:</b> LTS (same as the Project) because Alternative 1 would result in the same conflict with General Plan Goal OS-E, which protects wildlife resources. The implementation of Mitigation Measure 3.5-1, Mitigation Measure 3.5-2, and Mitigation Measure 3.5-3 would be required.</li> <li><b>Impact 3.5-4:</b> LTS (same as the Project) because Alternative 1 would require the same PG&amp;E infrastructure as the Project, resulting in the same level of consistency with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan.</li> <li><b>Impact 3.5-5:</b> LTS (similar to but less than the Project) because (as discussed in the context of Impact 3.5-1) Alternative 1 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-6:</b> LTS (similar to but less than the Project) because (as discussed in the context of Impact 3.5-2) Alternative 1 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-7:</b> LTS (same as the Project) because (as discussed in the context of Impact 3.5-3) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-8:</b> LTS (same as the Project) because (as discussed in the context of Impact 3.5-4) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> </ul>   | <p>not include reflective surfaces, and as a result, would minimally affect birds from collisions with Project structures.</p> <ul style="list-style-type: none"> <li><b>Impact 3.5-3:</b> LTS (same as the Project) because Alternative 2 would result in the same conflict with General Plan Goal OS-E, which protects wildlife resources. The implementation of Mitigation Measure 3.5-1, Mitigation Measure 3.5-2, and Mitigation Measure 3.5-3 would be required.</li> <li><b>Impact 3.5-4:</b> LTS (same as the Project) because Alternative 2 would require the same PG&amp;E infrastructure as the Project, resulting in the same level of consistency with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan.</li> <li><b>Impact 3.5-5:</b> LTS (similar to but less than the Project) because (as discussed in the context of Impact 3.5-1) Alternative 2 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-6:</b> LTS (similar to but less than the Project) because (as discussed in the context of Impact 3.5-2) Alternative 1 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-7:</b> LTS (same as the Project) because (as discussed in the context of Impact 3.5-3) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-8:</b> LTS (same as the Project) because (as discussed in the context of Impact 3.5-4) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> </ul>   |
| <p><b>Cultural and Tribal Cultural Resources</b></p> <p><b>Impact 3.6-1:</b> LTS. Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. The implementation of Mitigation Measure 3.6-1 (Cultural Resources Awareness Training) and Mitigation Measure 3.6-2 (Inadvertent Discovery of Cultural Resources) would reduce this impact to a less-than-significant level.</p> <p><b>Impact 3.6-2:</b> LTS. Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a). The implementation of Mitigation Measures 3.6-1 and 3.6-2 would reduce this impact to a less-than-significant level.</p> <p><b>Impact 3.6-3:</b> LTS. The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources.</p> <p><b>Impact 3.6-4:</b> LTS. The Project would not cause a cumulatively considerable contribution to any significant impact due to damage to previously unidentified human remains.</p>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.6-1:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance would occur that could result in a new discovery of historical or archaeological resources.</li> <li><b>Impact 3.6-2:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance would occur that could result in the discovery of human remains.</li> <li><b>Impact 3.6-3:</b> No impact (less than the Project) because this alternative would not cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources.</li> <li><b>Impact 3.6-4:</b> No impact (less than the Project) because this alternative would not cause or contribute to any significant impact related to damage to previously unidentified human remains.</li> </ul> | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.6-1:</b> LTS (similar to but less than the Project) because Alternative 1 would entail less construction and associated ground-disturbing activities. The reduced disturbance footprint would result in lessened potential for disturbance of previously unknown historical or archaeological resources. However, because disturbance would occur that could cause a potential significant impact related to a substantial adverse change in the significance of a newly discovered historical or archaeological resource, the implementation of the same mitigation measures (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-2:</b> LTS (similar to but less than the Project) because Alternative 1 would result in a reduced disturbance footprint and thus a lessened potential to cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources. However, because disturbance would occur that could cause a significant impact, the implementation of the same mitigation measure (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-3:</b> LTS (similar to but less than the Project) because this alternative would not cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources.</li> <li><b>Impact 3.6-4:</b> LTS (similar to but less than the Project) because this alternative would not cause or contribute to any significant impact related to damage to previously unidentified human remains.</li> </ul> | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.6-1:</b> LTS (similar to but less than the Project) because Alternative 2 would entail less construction and associated ground-disturbing activities. The reduced disturbance footprint would result in lessened potential for disturbance of previously unknown historical or archaeological resources. However, because disturbance would occur that could cause a potential significant impact related to a substantial adverse change in the significance of a newly discovered historical or archaeological resource, the implementation of the same mitigation measures (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-2:</b> LTS (similar to but less than the Project) because Alternative 2 would result in a reduced disturbance footprint and thus a lessened potential to cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources. However, because disturbance would occur that could cause a significant impact, the implementation of the same mitigation measure (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-3:</b> LTS (similar to but less than the Project) because this alternative would not cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources.</li> <li><b>Impact 3.6-4:</b> LTS (similar to but less than the Project) because this alternative would not cause or contribute to any significant impact related to damage to previously unidentified human remains.</li> </ul> |

**TABLE 4-8 (CONTINUED)**  
**SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*   |
|---|--|--|---|
| <p><b>Energy</b></p> <p><b>Impact 3.7-1:</b> LTS. Project construction, operation and maintenance, and/or decommissioning and site reclamation would not result in the wasteful, inefficient, or unnecessary consumption or use of energy.</p> <p><b>Impact 3.7-2:</b> LTS. The Project would not cause or contribute to a significant cumulative effect due to the wasteful, inefficient, or unnecessary consumption or use of energy.</p>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.7-1:</b> No impact (less than the Project) because no energy use would be required over baseline demands. However, the No Project Alternative would not assist in meeting California's RPS goal of increasing the percentage of electricity procured from renewable sources to 100 percent by 2045.</li> <li><b>Impact 3.7-2:</b> No impact (less than the Project). Because no energy use and no energy storage would occur, no cumulative impacts would result.</li> </ul>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.7-1:</b> LTS (less than the Project) because the reduced total area of the site would shorten the travel distance necessary for equipment inspections and maintenance. The number of workers commuting to the site would also likely decrease with the smaller acreage, lowering the emissions generated by worker commute vehicles.</li> <li><b>Impact 3.7-2:</b> LTS (less than the Project) because Alternative 1's incrementally reduced energy demand would not cause or contribute to a significant adverse cumulative effect.</li> </ul>  | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.7-1:</b> LTS (similar to but less than the Project) because Alternative 2 would result in an approximately 50 percent reduction in the development footprint and a corresponding reduction of the battery storage capacity. The reduced level of development could shorten the travel distance necessary for equipment inspections and maintenance and the number of workers commuting to the site also could decrease with the smaller development footprint; however, related reductions in fuel use would not be expected to be appreciably less than under the Project, because the development of Alternative 2 would occur within the same overall footprint as the Project and because of the offsetting reduction in energy storage capacity of Alternative 2.</li> <li><b>Impact 3.7-2:</b> LTS (similar to but less than the Project) because Alternative 2's incrementally reduced energy demand would not cause or contribute to a significant adverse cumulative effect.</li> </ul>   |
| <p><b>Geology, Soils, and Paleontological Resources</b></p> <p><b>Impact 3.8-1:</b> LTS. The Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.</p> <p><b>Impact 3.8-2:</b> LTS. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.</p> <p><b>Impact 3.8-3:</b> LTS. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.</p> <p><b>Impact 3.8-4:</b> The Project would not result in substantial soil erosion or loss of topsoil.</p> <p><b>Impact 3.8-5:</b> LTS. The Project would not 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 lateral spreading, subsidence, liquefaction, or collapse.</p> <p><b>Impact 3.8-6:</b> LTS. The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property.</p> <p><b>Impact 3.8-7:</b> LTS. The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater.</p> <p><b>Impact 3.8-8:</b> LTS/M. The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The implementation of Mitigation Measure 3.8-1 (Paleontological Monitoring) would reduce this potential significant impact to a less-than-significant level.</p> <p><b>Impact 3.8-9:</b> LTS. The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p> <p><b>Impact 3.8-10:</b> LTS. The Project would not cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil.</p> <p><b>Impact 3.8-11:</b> LTS/M. The Project would not cause or contribute to a significant cumulative effect to paleontological resources. The implementation of Mitigation Measure 3.8-1 would be required.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.8-1:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would occur that could result in a substantial adverse impact involving rupture of a known earthquake fault.</li> <li><b>Impact 3.8-2:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would occur that could result in a substantial adverse impact involving strong seismic ground shaking.</li> <li><b>Impact 3.8-3:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would occur that could result in a substantial adverse impact involving seismic-related ground failure.</li> <li><b>Impact 3.8-4:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would occur that could result in a substantial adverse impact involving seismic-related ground failure.</li> <li><b>Impact 3.8-5:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would occur that could result in substantial soil erosion or loss of topsoil.</li> <li><b>Impact 3.8-6:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would be located on expansive soil.</li> <li><b>Impact 3.8-7:</b> No impact (less than the Project) because no septic tanks or alternative wastewater disposal system would be developed.</li> <li><b>Impact 3.8-8:</b> No impact (less than the Project) because no energy storage project-related ground-disturbance or development would occur that could destroy a unique paleontological resource or site.</li> <li><b>Impact 3.8-9:</b> No impact (less than the Project) because the No Project Alternative would not contribute any incremental impact that could cause or contribute to a significant cumulative effect related to seismicity.</li> <li><b>Impact 3.8-10:</b> No impact (less than the Project) because the No Project Alternative would not contribute any incremental impact that could cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil.</li> </ul> | <p><b>Overall: greater than the Project for paleontological resources; same as the Project for other impacts to geology and soils</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.8-1:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-2:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-3:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-4:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-5:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-6:</b> LTS (similar to but less than the Project) because only a subset of the same land that composes the Project site would be disturbed by Alternative 1.</li> <li><b>Impact 3.8-7:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geology and soils conditions.</li> <li><b>Impact 3.8-8:</b> LTS (similar to but less than the Project) because Alternative 1 would be developed on a subset of the Project site.</li> <li><b>Impact 3.8-9:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the Project site and (like the Project) would include septic tanks or an alternative wastewater disposal system.</li> <li><b>Impact 3.8-10:</b> LTS (greater than the Project) because Alternative 1 would require installation of approximately twice the amount of infrastructure at depths that could cause a potential significant impact on a unique paleontological resource. The implementation of Mitigation Measure 3.8-1 would be required.</li> <li><b>Impact 3.8-9:</b> LTS (same as the Project) because Alternative 1 would contribute the same incremental impact as the Project related to seismicity.</li> <li><b>Impact 3.8-10:</b> LTS (similar to but less than the Project) because development of Alternative 1 would contribute a slightly reduced incremental impact related to erosion or the loss of topsoil.</li> </ul> | <p><b>Overall: same as the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.8-1:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-2:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-3:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-4:</b> LTS (similar to but less than the Project) because only a subset of the same land that composes the Project site would be disturbed by Alternative 2.</li> <li><b>Impact 3.8-5:</b> LTS (same as the Project) because development of Alternative 2 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geology and soils conditions.</li> <li><b>Impact 3.8-6:</b> LTS (similar to but less than the Project) because Alternative 2 would be developed within the same site as the Project.</li> <li><b>Impact 3.8-7:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project and (like the Project) would include septic tanks or an alternative wastewater disposal system.</li> <li><b>Impact 3.8-8:</b> LTS/M (same as the Project) because Alternative 2 would installation of the same amount of infrastructure as the Project at depths that could cause a potential significant impact on a unique paleontological resource. The implementation of Mitigation Measure 3.8-1 would be required.</li> <li><b>Impact 3.8-9:</b> LTS (same as the Project) because Alternative 2 would contribute the same incremental impact as the Project related to seismicity.</li> <li><b>Impact 3.8-10:</b> LTS (similar to but less than the Project) because development of Alternative 2 would contribute a slightly reduced incremental impact related to erosion or the loss of topsoil.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project   | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*   |
|--|---|--|---|
|  | <ul style="list-style-type: none"> <li><b>Impact 3.8-11:</b> No impact (<i>less</i> than the Project) because the No Project Alternative would not contribute any incremental impact that could cause or contribute to a significant cumulative effect to paleontological resources. The implementation of Mitigation Measure 3.8-1 would be <b>required</b>.</li> </ul>  | <ul style="list-style-type: none"> <li><b>Impact 3.8-11:</b> LTSM (<b>greater</b> than the Project) because Alternative 1 would require installation of approximately twice the amount of infrastructure at depth as the Project and so would cause twice the incremental contribution to a significant cumulative effect to paleontological resources as the Project. The implementation of Mitigation Measure 3.8-1 would be required.</li> </ul>  | <ul style="list-style-type: none"> <li><b>Impact 3.8-11:</b> LTSM (<i>same</i> as the Project) because Alternative 2 would contribute the same incremental impact as the Project to cumulative conditions. The implementation of Mitigation Measure 3.8-1 would be required.</li> </ul>   |
| <b>Greenhouse Gas Emissions</b>  |   |  |   |
| <p><b>Impact 3.9-1:</b> LTS. The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment.</p> <p><b>Impact 3.9-2:</b> LTS. The Project could conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.9-1:</b> No impact (<i>less</i> than the Project) because no GHGs would be emitted over baseline conditions in this scenario. However, the No Project Alternative would not contribute to a reduction of GHG emissions by offsetting current GHG-producing fossil-fueled energy, and thus, GHG emissions under baseline conditions may be higher under the No Project Alternative than with implementation of the Project.</li> <li><b>Impact 3.9-2:</b> No impact (<i>less</i> than the Project). Because no GHGs would be emitted over baseline conditions in the No Project scenario, the No Project Alternative could not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</li> </ul>  | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.9-1:</b> LTS (<i>similar to but less</i> than the Project). The Alternative 1 site would be approximately 62 percent of the size of the proposed Project site and 77 percent of the Project's anticipated permanent footprint. The reduced project would require fewer equipment-use hours and vehicle trips overall, resulting in reduced GHG emissions relative to the Project.</li> <li><b>Impact 3.9-2:</b> LTS (<b>greater</b> than the Project). Alternative 1 would not cause a significant impact related to a conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions; however, Alternative 1's reduced storage capacity would contribute less of a benefit in terms of progress toward meeting GHG emissions reduction goals set forth in applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</li> </ul>   | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.9-1:</b> LTS (<i>similar to but less</i> than the Project). The Alternative 2 site would be approximately 50 percent of the size of the proposed site. The reduced project would require fewer equipment-use hours and vehicle trips overall, resulting in reduced GHG emissions relative to the Project.</li> <li><b>Impact 3.9-2:</b> LTS (<b>greater</b> than the Project). Alternative 2 would not cause a significant impact related to a conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions; however, Alternative 2's reduced storage capacity would contribute less of a benefit in terms of progress toward meeting the GHG emissions reduction goals of applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</li> </ul>  |
| <b>Hazards and Hazardous Materials</b>   |   |  |   |
| <p><b>Impact 3.10-1:</b> LTS. The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p> <p><b>Impact 3.10-2:</b> LTSM. The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would reduce this to a less-than-significant level.</p> <p><b>Impact 3.10-3:</b> LTSM. The Project could impair implementation of or physically interfere with emergency response or emergency evacuation. The implementation of Mitigation Measure 3.10-2 (Traffic Management Plan) would reduce this to a less-than-significant level.</p> <p><b>Impact 3.10-4:</b> LTSM. With the implementation of Mitigation Measure 3.10-1 (Soil Management Plan), the Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment.</p> <p><b>Impact 3.10-5:</b> LTSM. With the implementation of Mitigation Measure 3.10-2 (Traffic Management Plan), the Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.10-1:</b> No impact (<i>less</i> than the Project) because no routine transport, use, or disposal of hazardous materials above baseline conditions would occur.</li> <li><b>Impact 3.10-2:</b> No impact (<i>less</i> than the Project) because no energy storage-related accidental spills or releases of hazardous materials into the environment could occur.</li> <li><b>Impact 3.10-3:</b> No impact (<i>less</i> than the Project) because neither West Jayne Avenue nor other Project area roadways would require closure.</li> <li><b>Impact 3.10-4:</b> No impact (<i>less</i> than the Project) because no cumulative energy storage-related accidental spills or releases of hazardous materials into the environment could occur.</li> <li><b>Impact 3.10-5:</b> No impact (<i>less</i> than the Project) because neither West Jayne Avenue nor other Project area roadways would require closure.</li> </ul> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.10-1:</b> LTS (<i>same</i> as the Project) because, although routine transport, use, or disposal of hazardous materials would occur, it would not create a significant hazard to the public or the environment.</li> <li><b>Impact 3.10-2:</b> LTS (<i>less</i> than the Project) because no water from the existing water supply well on the northernmost Project parcel would be used for Alternative 1's energy storage project purposes. This means that the area of contaminated soil at the diesel AST would not be disturbed. Thus, Alternative 1 would avoid the Project-related impact of disturbing known contaminated soil. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would not be required for Alternative 1. Although accidental spills or releases of hazardous materials into the environment otherwise could occur, compliance with applicable laws and other requirements would ensure that related impacts would be less than significant.</li> <li><b>Impact 3.10-3:</b> LTSM (<i>same</i> as the Project) because temporary closure of West Jayne Avenue would be required for transmission line installation, and as a result, could preclude or substantially delay emergency response or evacuation such that a significant hazard to the public or the environment resulted. The implementation of Mitigation Measure 3.10-2 (Traffic Management Plan) would reduce this impact to a less-than-significant level.</li> <li><b>Impact 3.10-4:</b> LTS (<i>less</i> than the Project) because Alternative 1 would avoid the Project's disturbance of contaminated soil at the diesel AST, thereby reducing the incremental contribution of Alternative 1 to cumulative effects such that no mitigation would be required. The resulting cumulative impacts would be less than significant.</li> <li><b>Impact 3.10-5:</b> LTSM (<i>same</i> as the Project) because Alternative 1's temporary closure of West Jayne Avenue would be the same as the Project's.</li> </ul> | <p><b>Overall: same as the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.10-1:</b> LTS (<i>same</i> as the Project) because, although routine transport, use, or disposal of hazardous materials would occur, it would not create a significant hazard to the public or the environment.</li> <li><b>Impact 3.10-2:</b> LTSM (<i>same</i> as the Project) because, absent an established development footprint that would avoid the area of contaminated soil at the diesel AST, the impacts of Alternative 2 would be the same in this regard as the Project. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would be required. Although accidental spills or releases of hazardous materials into the environment otherwise could occur, compliance with applicable laws and other requirements would ensure that related impacts would be less than significant.</li> <li><b>Impact 3.10-3:</b> LTSM (<i>same</i> as the Project) because temporary closure of West Jayne Avenue would be required for transmission line installation, and as a result, could preclude or substantially delay emergency response or evacuation such that a significant hazard to the public or the environment resulted. The implementation of Mitigation Measure 3.10-2 (Traffic Management Plan) would reduce this impact to a less-than-significant level.</li> <li><b>Impact 3.10-4:</b> LTSM (<i>same</i> as the Project) because, absent an established development footprint that would avoid the area of contaminated soil at the diesel AST, the contribution of Alternative 2 to cumulative impacts would be the same as the Project's. Mitigation Measure 3.10-1 would be required.</li> <li><b>Impact 3.10-5:</b> LTSM (<i>same</i> as the Project) because Alternative 2 also would require the temporary closure of West Jayne Avenue and implementation of Mitigation Measure 3.10-2 (Traffic Management Plan). Thus, the incremental contribution of Alternative 2 to cumulative effects would be the same as the Project's.</li> </ul> |

**TABLE 4-8 (CONTINUED)**  
**SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project   | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|--|---|---|---|
| <p><b>Hydrology and Water Quality</b></p> <p><b>Impact 3.11-1:</b> LTSM. The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations to prevent adverse water quality effects from the management of contaminated material.</p> <p><b>Impact 3.11-2:</b> LTS. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.</p> <p><b>Impact 3.11-3:</b> LTS. The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which: (i) Results in substantial erosion or siltation on- or off-site; (ii) substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) creates or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff; or (iv) impedes or redirects flood flows.</p> <p><b>Impact 3.11-4:</b> LTSM. The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would ensure that contaminated soil is properly removed and disposed of and so would prevent a conflict with or obstruction of the implementation of the water quality control plan or sustainable groundwater management plan.</p> <p><b>Impact 3.11-5:</b> LTS. The Project would make a less than cumulatively considerable contribution to cumulative effects relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</p> <p><b>Impact 3.11-6:</b> LTS. The Project would not cause a cumulatively considerable contribution to decreased groundwater supplies or substantial interference with groundwater recharge such that the sustainable groundwater management of the basin could be impeded.</p> <p><b>Impact 3.11-7:</b> LTS. The Project would not cause a cumulatively considerable contribution to a significant impact due to substantial alteration of the existing drainage pattern of the site or area.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.11-1:</b> No impact (less than the Project) because no energy storage project-related mobilization of contamination, sediment, or other pollutants would occur that could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.</li> <li><b>Impact 3.11-2:</b> No impact (less than the Project) because there would be no change to the existing (baseline) level of demand on groundwater supplies.</li> <li><b>Impact 3.11-3:</b> No impact (less than the Project) because no energy storage-related alteration of the existing drainage pattern of the site or area would occur.</li> <li><b>Impact 3.11-4:</b> No impact (less than the Project) because no energy storage-related change to on-site conditions would occur that could conflict with or obstruct implementation of the water quality control plan or sustainable groundwater management plan.</li> <li><b>Impact 3.11-5:</b> No impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to water quality standards, waste discharge requirements, or otherwise to surface or groundwater quality.</li> <li><b>Impact 3.11-6:</b> No impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to alteration of the existing drainage pattern of the site or area.</li> <li><b>Impact 3.11-7:</b> No impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to alteration of the existing drainage pattern of the site or area.</li> </ul> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.11-1:</b> LTS (less than the Project) because Alternative 1 would have a smaller overall footprint (or area of disturbance), given the limitation of development to the southern parcels. No water from the existing water supply well on the northernmost Project parcel would be used for Alternative 1's energy storage project purposes. This also means that the area of contaminated soil at the diesel AST would not be disturbed and Alternative 1 would avoid the Project-related impact of disturbing known contaminated soil, which if improperly handled, could affect water quality. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would not be required.</li> <li><b>Impact 3.11-2:</b> LTS (greater than the Project). Alternative 1 would have a higher net water demand than the proposed Project because groundwater would continue to be used for irrigation and the energy storage system would require water in addition to the existing volume of irrigation water use. Groundwater demand would be higher under Alternative 1 because the water use associated with Alternative 1 would be in addition to and not a replacement of existing irrigation water use volumes. As discussed in the Water Supply Assessment (Appendix L), the sustainable yield of the Westside Subbasin is about 297,000 AFY. If the volume of water used for Alternative 1 were similar to that for the Project (maximum of 171 AFY during construction and decommissioning, and 0.003 AFY for operations), those estimated volumes of annual water use would compose at most 0.000058 percent during construction and decommissioning and a negligible amount during operation, relative to the sustainable yield of the subbasin. Therefore, these effects, though numerically greater than the Project effects, would not conflict with groundwater supply or sustainability, and the associated impact would remain less than significant.</li> <li><b>Impact 3.11-3:</b> LTS (same as the Project) because Alternative 1 would not substantially alter the existing drainage pattern of the site or area in a way that would result in substantial erosion or siltation on- or off-site, result in a substantial increase in the rate or amount of surface runoff, create or contribute to runoff water that would exceed the stormwater drainage system capacity or provide substantial additional sources of polluted runoff, or impede or redirect flood flows.</li> <li><b>Impact 3.11-4:</b> LTS (less than the Project) because Alternative 1's reduced area of disturbance would not utilize water from the existing water supply well on the northernmost Project parcel and the area of contaminated soil at the diesel AST would not be disturbed. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would not be required to prevent a potential conflict with or obstruction of the implementation of the water quality control plan or sustainable groundwater management plan.</li> <li><b>Impact 3.11-5:</b> LTS (less than the Project) because Alternative 1 would contribute a reduced incremental contribution to cumulative conditions relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</li> <li><b>Impact 3.11-6:</b> LTS (greater than the Project). Alternative 1 would require an incrementally greater demand on groundwater than the Project; however, the contribution would remain less than cumulatively considerable.</li> <li><b>Impact 3.11-7:</b> LTS (same as the Project) because Alternative 1 would contribute a substantially similar contribution to cumulative conditions relating to the existing drainage pattern of the site or area.</li> </ul> | <p><b>Overall: similar but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.11-1:</b> LTSM (same as the Project). Alternative 2 would have approximately 50 percent of the development footprint as the Project; however, at least some of the existing almond orchard would be removed. As a result, a potential significant impact would remain and the implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would be required to properly manage and dispose of contaminated soil at the diesel AST associated with the water supply well.</li> <li><b>Impact 3.11-2:</b> LTS (similar but less than the Project). Alternative 2 would leave a portion of the northern Project parcel in irrigated agricultural use but would reduce overall energy storage project-related water demand, given the 50 percent reduction in development footprint. Alternative 2 also would allow for a relatively smaller addition of impervious surface area, which would allow for a greater overall area for groundwater recharge across the site. As with the Project, the overall impacts associated with impervious surfaces proposed under Alternative 2 would result in a minor loss of groundwater recharge capability across the site. Overall, Alternative 2 would not cause a significant adverse impact on water supply.</li> <li><b>Impact 3.11-3:</b> LTS (same as the Project) because Alternative 2 would not substantially alter the existing drainage pattern of the site or area in a way that would result in substantial erosion or siltation on- or off-site, result in a substantial increase in the rate or amount of surface runoff, create or contribute to runoff water that would exceed the stormwater drainage system capacity or provide substantial additional sources of polluted runoff, or impede or redirect flood flows.</li> <li><b>Impact 3.11-4:</b> LTSM (same as the Project) because development needed for Alternative 2 could cause the same potential significant impact as the Project related to disturbance of contaminated soil present at the diesel AST associated with the water supply well. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would be required to prevent a potential conflict with or obstruction of the implementation of the water quality control plan or sustainable groundwater management plan.</li> <li><b>Impact 3.11-5:</b> LTS (same as the Project) because Alternative 2 would contribute a substantially similar incremental contribution to cumulative conditions relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</li> <li><b>Impact 3.11-6:</b> LTS (similar but less than the Project) because Alternative 2 would result in an incrementally reduced contribution to cumulative conditions relating to groundwater compared to the Project. The contribution would remain less than cumulatively considerable.</li> <li><b>Impact 3.11-7:</b> LTS (same as the Project) because Alternative 2 would contribute a substantially similar contribution to cumulative conditions relating to the existing drainage pattern of the site or area.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|---|--|---|---|
| <p><b>Land Use and Planning</b></p> <p>The Project would cause no impact related to physical division of an established community.</p> <p>The Project would cause no impact related to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</p>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because if the No Project Alternative were to be implemented, then none of the proposed energy storage-related development would be constructed, operated, maintained, or decommissioned on the Project site. Instead, the Project site would continue to be used periodically for dry-farmed agriculture and/or left fallow. Because there would be no change relative to baseline conditions, the No Project Alternative would create no impact on established communities.</li> <li>No impact (same as the Project) because no energy storage project-related development would occur that could conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul> | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). Because Alternative 1 would be developed on a subset of the Project site, energy storage-related use in that location would not physically divide an established community or hinder existing community access.</li> <li>No impact (same as the Project). Because Alternative 1 would be developed on a subset of the Project site, energy storage-related use in that location would not create any different conflict relative to the Project in connection with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). Because Alternative 2 would be developed on a subset of the Project site, energy storage-related use in that location would not physically divide an established community or hinder existing community access.</li> <li>No impact (same as the Project). Because Alternative 2 would be developed on a subset of the Project site, energy storage-related use in that location would not create any different conflict relative to the Project in connection with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul>  |
| <p><b>Mineral Resources</b></p> <p>The Project would result in no impact related to causing the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</p> <p>The Project would result in no impact related to causing the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because no energy storage project-related development or ground disturbance would occur that could affect the availability of a known mineral resource.</li> <li>No impact (same as the Project) because no energy storage project-related development or ground disturbance would occur that could affect the availability of a known mineral resource recovery site.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because there are no known mineral resources within the Alternative 1 site that would be of value to the region and the residents of the state.</li> <li>No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 1 site.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because there are no known mineral resources within the Alternative 2 site that would be of value to the region and the residents of the state.</li> <li>No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 2 site.</li> </ul>   |
| <p><b>Noise and Acoustics</b></p> <p><b>Impact 3.14-1:</b> LTSM. The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Implementation of Mitigation Measure 3.14-1 (Noise Reduction for Construction Activities) would reduce potential nighttime construction noise impacts below established thresholds by limiting the types of activities that might occur during nighttime hours to those least likely to generate substantial noise.</p> <p><b>Impact 3.14-2:</b> LTS. The Project would not expose people and/or structures to excessive vibration levels.</p> <p><b>Impact 3.14-3:</b> LTS. The Project would not cause a cumulatively considerable contribution to any significant noise or vibration impact.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.14-1:</b> No impact (less than the Project) because no energy storage project-related construction equipment or activities would occur on the Project site that could increase ambient noise levels.</li> <li><b>Impact 3.14-2:</b> No impact (less than the Project) because no energy storage project-related equipment or activities would occur on the Project site that could expose people or structures to vibration.</li> <li><b>Impact 3.14-3:</b> No impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative noise or vibration conditions.</li> </ul>   | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.14-1:</b> LTSM (similar but less than the Project). Alternative 1 would be approximately 62 percent of the size of the Project site and 77 percent of the Project's anticipated permanent footprint and would reduce the construction period from 76 months to 61 months (a 20 percent reduction). Further, only the southern parcels would be developed, which are farther from receptors. Even though the construction impacts of Alternative 1 would be reduced compared to those of the Project, the nighttime noise impact would remain potentially significant. The implementation of Mitigation Measure 3.14-1 would be required.</li> <li><b>Impact 3.14-2:</b> LTS (same as the Project) because, although Alternative 1 could cause some vibration, it would not expose people or structures to excessive vibration levels.</li> <li><b>Impact 3.14-3:</b> LTS (similar but less than the Project) because Alternative 1 would result in a reduced incremental contribution to cumulative noise or vibration conditions compared to the Project.</li> </ul> | <p><b>Overall: = (less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.14-1:</b> LTS (less than the Project). Alternative 2 would reduce construction and resulting storage capacity at the site by approximately half. As a result, the construction and other impacts of Alternative 2 would be reduced compared to those of the Project such that no mitigation would be required.</li> <li><b>Impact 3.14-2:</b> LTS (same as the Project) because, although Alternative 2 could cause some vibration, it would not expose people or structures to excessive vibration levels.</li> <li><b>Impact 3.14-3:</b> LTS (less than the Project) because Alternative 2 would result in a reduced incremental contribution to cumulative noise or vibration conditions compared to the Project.</li> </ul> |
| <p><b>Population and Housing</b></p> <p>The Project would cause no impact related to inducement of substantial unplanned population growth in the study area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, by extending roads or other infrastructure). The Project would cause no impact related to the displacement of substantial numbers of existing people or housing, and thus would cause no impacts related to the construction of replacement housing elsewhere.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If the No Project Alternative were implemented, none of the proposed facilities would be constructed, operated, maintained, or decommissioned on the Project site. No construction workers would be required at the site. Instead, the Project site would continue to be used periodically for dry-farmed agriculture and/or disked and left fallow. Because there would be no change relative to baseline conditions, the No Project Alternative would not induce substantial unplanned population growth in the study area.</li> <li>No impact (same as the Project) because the No Impact Alternative would not displace substantial numbers of existing people or housing.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 1 would not induce substantial unplanned population growth in the study area.</li> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 1 would not displace substantial numbers of existing people or housing.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 2 would not induce substantial unplanned population growth in the study area.</li> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 2 would not displace substantial numbers of existing people or housing.</li> </ul>   |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*   |
|---|--|--|---|
| <p><b>Public Services</b></p> <p>The Project would result in no impact related to a substantial adverse physical impact from the provision of or 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 fire protection, police protection, schools, libraries, parks, emergency medical facilities or other public facilities.</p>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If the No Project Alternative were implemented, no increase in the baseline level of demand for public services would be generated by on-site activities.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If Alternative 1 were implemented, the slight potential increase in demand for public services caused by new or physically altered governmental facilities to provide such services.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If Alternative 2 were implemented, the slight potential increase in demand for public services caused by energy storage-related development would not provide or require new or physically altered governmental facilities to provide such services.</li> </ul>  |
| <p><b>Recreation</b></p> <p>The Project would cause no impact related to an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</p> <p>The Project would cause no impact related to the inclusion of recreational facilities or requirement of the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because the No Project Alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities.</li> <li>No impact (same as the Project) because the No Project Alternative would not result in new recreational facilities to be constructed, operated or maintained, and would not otherwise require the construction or expansion of recreational facilities.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because Alternative 1 would not cause a substantial increase in population or a substantial reduction in the availability of existing parks or other recreational facilities, and thus would not increase the use of existing neighborhood and regional parks or other recreational facilities.</li> <li>No impact (same as the Project) because Alternative 1 would not result in population growth and would not affect Fresno County's or Kern County's ability to meet the existing demand for parks and recreation-related facilities, and thus would not result in construction of new or expanded recreational facilities.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because Alternative 2 would not cause a substantial increase in population or a substantial reduction in the availability of existing parks or other recreational facilities, and thus would not increase the use of existing neighborhood and regional parks or other recreational facilities.</li> <li>No impact (same as the Project) because Alternative 2 would not result in population growth and would not affect Fresno County's or Kern County's ability to meet the existing demand for parks and recreation-related facilities, and thus would not result in construction of new or expanded recreational facilities.</li> </ul>  |
| <p><b>Transportation</b></p> <p><b>Impact 3.18-1:</b> LTSM. Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system. Implementation of Mitigation Measure 3.10-2 (Construction Traffic Management Plan) would be required.</p> <p><b>Impact 3.18-2:</b> LTS. The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</p> <p><b>Impact 3.18-3:</b> LTS. The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p> <p><b>Impact 3.18-4:</b> LTS. The Project would not result in inadequate emergency access.</p> <p><b>Impact 3.18-5:</b> LTSM. The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation. Implementation of Mitigation Measure 3.10-2 (Construction and Decommissioning Traffic Management Plan) would be required to reduce the Project's incremental contribution to a potential significant cumulative effect.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.18-1:</b> No impact (less than the Project) because no energy storage-related traffic would be generated that could cause a conflict with a program, plan, ordinance, or policy addressing the roadway system.</li> <li><b>Impact 3.18-2:</b> No impact (less than the Project) because no energy storage-related traffic would be generated that could conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</li> <li><b>Impact 3.18-3:</b> No impact (less than the Project) because no energy storage-related traffic would be generated that could increase hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-4:</b> No impact (less than the Project) because no energy storage-related traffic would be generated that could result in inadequate emergency access.</li> <li><b>Impact 3.18-5:</b> No impact (less than the Project) because no energy storage-related traffic would be generated that could cause or contribute to any significant cumulative impact on transportation.</li> </ul> | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.18-1:</b> LTSM (similar but less than the Project). Alternative 1 would be approximately 62 percent of the size of the site as proposed and 77 percent of the Project's anticipated permanent footprint. The construction duration would also be reduced from 76 months to 61 months for Alternative 1 (i.e., a 20 percent reduction). Although the same number of construction workers would be needed as for the Project, construction vehicle trips would be scaled in proportion to the reduced project size. Impacts on roadways would be reduced but comparable, and the implementation of Mitigation Measure 3.10-2 (Construction Traffic Management Plan) would be required.</li> <li><b>Impact 3.18-2:</b> LTS (same as the Project) because Alternative 1 would generate vehicle trips but would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</li> <li><b>Impact 3.18-3:</b> LTS (same as the Project) because Alternative 1 would not cause a significant impact related to a substantial increase in hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-4:</b> LTS (same as the Project) because Alternative 1 would not cause a significant impact related to a substantial increase in hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-5:</b> LTSM (similar but less than the Project) because even though Alternative 1 would contribute fewer vehicle trips to the cumulative condition, the implementation of Mitigation Measure 3.10-2 (Construction and Decommissioning Traffic Management Plan) would still be required to reduce the incremental contribution to a less than cumulatively considerable level.</li> </ul> | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.18-1:</b> LTSM (similar but less than the Project). Alternative 2 would reduce the scale of the Project by approximately half, resulting in a reduced project footprint and a shorter construction duration. Nonetheless, a potential significant impact could result from the short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways. The implementation of Mitigation Measure 3.10-2 would be required.</li> <li><b>Impact 3.18-2:</b> LTS (same as the Project) because Alternative 2 would generate vehicle trips but would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</li> <li><b>Impact 3.18-3:</b> LTS (same as the Project) because Alternative 2 would not cause a significant impact related to a substantial increase in hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-4:</b> LTS (same as the Project) because Alternative 2 could affect circulation but would not result in inadequate emergency access.</li> <li><b>Impact 3.18-5:</b> LTSM (similar but less than the Project) because even though Alternative 2 would contribute fewer vehicle trips to the cumulative condition, the implementation of Mitigation Measure 3.10-2 would still be required to reduce the alternative's incremental contribution to a less than cumulatively considerable level.</li> </ul> |



**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project   | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|---|---|---|---|
| <p><b>Utilities and Service Systems</b></p> <p><b>Impact 3.19-1:</b> LTS. The Project would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.</p> <p><b>Impact 3.19-2:</b> LTS. The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development under average water year, single-dry water year, and multiple-dry water year scenarios over the next 20 years through various sources. However, because it cannot yet be determined whether there will be sufficient water supplies available to serve the Project and reasonably foreseeable future development under average water year, single-dry water year, and multiple-dry water year scenarios for the remainder of the permit term, including during Project decommissioning and site reclamation, Mitigation Measure 3.19-1, <i>Determine Future Water Supply Availability</i>, would be required.</p> <p><b>Impact 3.19-3:</b> LTS. The Project would 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.</p> <p><b>Impact 3.19-4:</b> LTS. The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.</p> <p><b>Impact 3.19-5:</b> LTS. The Project would not cause or contribute to any significant adverse cumulative impact to utilities and service systems.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.19-1:</b> No impact (less than the Project) because no energy storage-related water, wastewater treatment, stormwater drainage, electric power, or telecommunications utilities or services would be needed that could require construction that would cause significant environmental effects.</li> <li><b>Impact 3.19-2:</b> No impact (less than the Project) because no energy storage-related water demand would be generated on the site.</li> <li><b>Impact 3.19-3:</b> No impact (less than the Project) because no energy storage-related wastewater would be generated on-site that would require treatment.</li> <li><b>Impact 3.19-4:</b> No impact (less than the Project) because no energy storage-related solid waste would be generated on-site that would require disposal.</li> <li><b>Impact 3.19-5:</b> No impact (less than the Project) because no energy storage-related utility or service system demand would be generated on-site that could cause or contribute to significant cumulative impacts.</li> </ul>   | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.19-1:</b> LTS (similar but less than the Project) because Alternative 1's limitation of energy storage-related development to the two southernmost Project site parcels would incrementally reduce the resulting overall demand for utility and service system services and (like the Project) would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.</li> <li><b>Impact 3.19-2:</b> LTS (similar but less than the Project) because less water would be required to support Alternative 1 in light of its reduced size as compared to the Project. Nonetheless, Mitigation Measure 3.19-1 would be required to ensure that sufficient water supplies are available for the latter part of the permit term.</li> <li><b>Impact 3.19-3:</b> LTS (similar but less than the Project) because the reduction in wastewater generated by energy storage-related development would not result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project.</li> <li><b>Impact 3.19-4:</b> LTS (similar but less than the Project) because Alternative 1 would generate less solid waste than the Project and thus (like the Project) would not generate waste in an amount that would exceed state or local standards or the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.</li> <li><b>Impact 3.19-5:</b> LTS (similar but less than the Project) because Alternative 1 would result in reduced incremental contributions to cumulative conditions compared to the Project, and thus also would not cause or contribute to any significant adverse cumulative impact on utilities and service systems.</li> </ul> | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.19-1:</b> LTS (similar but less than the Project) because Alternative 2's development of approximately half the area compared to the Project would comparably reduce the resulting overall demand for utility and service system services and (like the Project) would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.</li> <li><b>Impact 3.19-2:</b> LTS (similar but less than the Project) because approximately half the amount of water would be required to support Alternative 2 in light of its reduced size as compared to the Project. Nonetheless, Mitigation Measure 3.19-1 would be required to ensure that sufficient water supplies are available for the latter part of the permit term.</li> <li><b>Impact 3.19-3:</b> LTS (similar but less than the Project) because the reduction in wastewater generated under Alternative 2 would not result in a determination by the wastewater treatment provider that it has inadequate capacity to provide service.</li> <li><b>Impact 3.19-4:</b> LTS (similar but less than the Project) because Alternative 2 would generate approximately half as much solid waste as the Project, and thus (like the Project) would not generate waste in an amount that exceeds state or local standards or the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.</li> <li><b>Impact 3.19-5:</b> LTS (similar but less than the Project) because Alternative 2 would result in reduced incremental contributions to cumulative conditions compared to the Project, and thus also would not cause or contribute to any significant adverse cumulative impact on utilities and service systems.</li> </ul> |
| <p><b>Wildfire</b></p> <p><b>Impact 3.20-1:</b> LTS. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.</p> <p><b>Impact 3.20-2:</b> LTS. The Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p><b>Impact 3.20-3:</b> LTS. The Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment.</p> <p><b>Impact 3.20-4:</b> LTS. The Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.</p> <p><b>Impact 3.20-5:</b> LTS. The Project would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.20-1:</b> No impact (less than the Project) because no energy storage-related development would occur on-site that (unless properly constructed, maintained, and operated) could create hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, or chemical burns.</li> <li><b>Impact 3.20-2:</b> No impact (less than the Project) because no energy storage-related use of vehicles and equipment would occur on-site that could ignite dry vegetation and result in a fire.</li> <li><b>Impact 3.20-3:</b> No impact (less than the Project) because no energy storage-related installation and/or maintenance of fuel breaks, power lines, and other electrical utilities would occur on-site that could exacerbate fire risk.</li> <li><b>Impact 3.20-4:</b> No impact (less than the Project) because no energy storage-related development would occur on-site that could expose people or structures to wildfire.</li> <li><b>Impact 3.20-5:</b> No impact (less than the Project) because no energy storage-related development would occur on-site that could incrementally contribute to potential significant cumulative wildfire effects.</li> </ul> | <p><b>Overall: = (same as than the Project)</b></p> <p><b>Impact 3.20-1:</b> LTS (same as the Project) because shifting the energy storage facility to the southern two Project site parcels would not substantially impair an adopted emergency response plan or emergency evacuation plan.</p> <p><b>Impact 3.20-2:</b> LTS (same as the Project) because Alternative 1 would be developed on a subset of the Project site and, as a result, would be subject to the same slope, prevailing winds, and other factors as the Project. A less-than-significant impact would result regarding the exacerbation of wildfire risks and related exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p><b>Impact 3.20-3:</b> LTS (same as the Project) because Alternative 1 also would require the installation or maintenance of infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities that could exacerbate fire risk or result in temporary or ongoing impacts on the environment.</p> <p><b>Impact 3.20-4:</b> LTS (same as the Project) because Alternative 1 would be developed on a subset of the Project site, and thus would be subject to the same site conditions that affect the risk of exposure of people or structures to significant site condition-related risks.</p> <p><b>Impact 3.20-5:</b> LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 1 would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.</p>  | <p><b>Overall: = (same as than the Project)</b></p> <p><b>Impact 3.20-1:</b> LTS (same as the Project) because although Alternative 2 would require approximately half the development footprint of the Project, its potential impact related to a potential for substantial impairment of an adopted emergency response plan or emergency evacuation plan would be the same.</p> <p><b>Impact 3.20-2:</b> LTS (same as the Project) because Alternative 2 would be developed on a subset of the Project site and, as a result, would be subject to the same slope, prevailing winds, and other factors as the Project. A less-than-significant impact would result regarding the exacerbation of wildfire risks and related exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p><b>Impact 3.20-3:</b> LTS (same as the Project) because, like the Project, Alternative 2 would require the installation or maintenance of infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities that could exacerbate fire risk or result in temporary or ongoing impacts on the environment. The risk of Alternative 2 would be the same as under the Project, just within a smaller development footprint.</p> <p><b>Impact 3.20-4:</b> LTS (same as the Project) because Alternative 2 would be developed on a subset of the Project site, and thus would be subject to the same site conditions that affect the risk of exposure of people or structures to significant site condition-related risks.</p>   |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project* | Impacts of the No Project Alternative Compared to the Project | Impacts of Alternative 1 Compared to the Project* | Impacts of Alternative 2 Compared to the Project*  |
|-------------------------|---|---|--|
|                         |   |   | <p><b>Impact 3.20-5:</b> LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 2 would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.</p> |

**NOTES:**

AFY = acre-feet per year; AST = aboveground storage tank; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; County = Fresno County; General Plan = Fresno County General Plan; GHG = greenhouse gas; O&M = operation and maintenance; PG&E = Pacific Gas and Electric Company; Project = Key Energy Storage Project; RPS = Renewables Portfolio Standard; SJVAPCD = San Joaquin Valley Air Pollution Control District; USFWS = U.S. Fish and Wildlife Service; Williamson Act = California Land Conservation Act of 1965

\* *Significance conclusions:* LTS = Less than Significant; LTSM = Less than Significant with Mitigation; SU = Significant and Unavoidable

SOURCE: Data compiled by Environmental Science Associates in 2023

Additional information received in or developed during the agency and public review period for the Draft EIR, or during the Project approval process, could affect the balancing of the respective benefits and consequences of the alternatives. Accordingly, while a preliminary determination has been made that Alternative 1 would be the Environmentally Superior Alternative, it would be premature to formally designate it as such at this stage. This preliminary determination as to which alternative is the Environmentally Superior Alternative will be confirmed or corrected in the Final EIR.

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# CHAPTER 5

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## Other CEQA Considerations

### 5.1 Introduction

CEQA Guidelines Section 15126 requires an EIR to discuss certain topics that were not specifically discussed in previous EIR chapters. Accordingly, this chapter discusses the following topics:

- (1) Significant environmental effects that cannot be avoided if the Project is implemented.
- (2) Significant irreversible environmental changes that would result from implementation of the Project.
- (3) Growth-inducing impacts of the Project.

### 5.2 Significant Unavoidable Impacts

Section 15126.2(a) of the CEQA Guidelines requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. As analyzed in Chapter 3, *Environmental Analysis*, the Project would result in no significant unavoidable impacts.

### 5.3 Irreversible Changes

CEQA's requirement to analyze irretrievable commitments of resources applies only in the following limited circumstances: (1) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (2) a local agency formation commission's adoption of a resolution making determinations; and (3) projects that require the preparation of an environmental impact statement under the National Environmental Policy Act of 1969 (Public Resources Code Section 21100.1; CEQA Guidelines Section 15127). Such an analysis is not required by CEQA for this Project.

### 5.4 Growth Inducement

Section 15126.2(e) of the CEQA Guidelines requires a discussion of the ways in which a 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 (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas)." Project-caused population increases could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Growth inducement can be a result of new development that increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the Project would require up to 150 on-site personnel during construction. The existing construction labor pool in Fresno County is sufficient for meeting Project needs.<sup>1</sup> After construction, the Project would require no full-time personnel and would be remotely operated and monitored. Routine operations would require weekly visits to the facility site by one or two workers in a light utility truck. It is anticipated that one annual major maintenance inspection would occur. Non-routine (emergency) maintenance could require additional workers. Decommissioning and site restoration activities are expected to require a workforce similar to or smaller than the construction workforce; decommissioning and site restoration–related activities are expected to take approximately 12 months per phase to complete according to the Project’s reclamation plan. Because construction and decommissioning would be temporary, the Project is unlikely to cause substantial numbers of people to relocate to Fresno County. Therefore, this Project would not result in a large increase in employment levels that would significantly induce growth.

It is expected that construction workers would commute to the Project site instead of relocating to Fresno County; however, even if all workers were to migrate into Fresno County, the existing available housing supply could accommodate them without requiring new construction.<sup>2</sup> Therefore, the Project is not expected to induce population growth, the housing and provision of services for which could cause significant adverse environmental impacts.

The Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.

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<sup>1</sup> According to the California Employment Development Department’s Labor Market Information Division, the unemployment rate in Fresno County was 5.9 percent in August 2022, down from a revised 8.8 percent in August 2021. This is comparable to an unadjusted unemployment rate of 5.8 percent for California and 3.7 percent for the nation during the same period.

<sup>2</sup> Among Fresno County’s 519,037 residents in 2022, one housing market source reported a homeowner vacancy rate of 0.9 percent and a rental vacancy rate of 4.5 percent from a total of 176,617 units. The vacancy rate reported by the California Department of Finance was higher: 5.7 percent (DOF 2022a, 2022b).

# CHAPTER 6

## Report Preparation

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### 6.1 Lead Agency

#### Fresno County Department of Public Works and Planning

2220 Tulare Street, 6th Floor  
Fresno, CA 93721

Jeremy Shaw, Planner  
David Randall, Senior Planner

### 6.2 Consultant

#### Environmental Science Associates

787 The Alameda, Suite 250  
San José, CA 95126

|                                  |  |
|----------------------------------|--|
| Janna Scott, J.D.                | Project Manager; Overall Quality Assurance/Quality Control; Introduction, Alternatives, Introduction to Environmental Analysis, Comparison of Project and Alternatives |
| Maria Hensel                     | Deputy Project Manager; Section Author: Agriculture and Forestry Resources, Hydrology and Water Quality; Senior Reviewer: Utilities and Service Systems                |
| Savannah Battista, M.S.          | Utilities and Service Systems, Wildfire  |
| Dave Beauchamp                   | Hydrology and Water Quality  |
| Michael Burns, C.H.G, C.E.G, P.G | Geology and Soils, Hazards and Hazardous Materials, Mineral Resources  |
| Brandon Carroll                  | Geology and Soils, Hazards and Hazardous Materials, Mineral Resources  |
| Dave Davis, M.S.                 | Aesthetics   |
| Matthew Fagundes                 | Air Quality, Energy, GHG Emissions   |
| Heidi Koenig, RPA                | Cultural and Tribal Cultural Resources   |
| Michelle Le                      | Air Quality, Energy, GHG Emissions   |
| Brian Pittman, M.S., CWB         | Biological Resources   |
| Shadde Rosenblum, M.U.R.P.       | Transportation   |

|                               |   |
|-------------------------------|---|
| Liza Ryan, M.S.               | Biological Resources  |
| Chris Sanchez                 | Noise   |
| Olivia Silverstein            | Aesthetics, Land Use, Population and Housing, Public Services, Recreation                                   |
| Ashleigh Sims, M.A., RPA      | Cultural and Tribal Cultural Resources  |
| Alexandra (Al) Thompson, M.A. | Agriculture and Forestry Resources, Land Use, Population and Housing, Public Services, Recreation, Wildfire |

## 6.3 Entities Consulted and Recipients of the Draft EIR

### Fresno County Department of Public Works and Planning

#### Key Energy Storage LLC

Patti Murphy

Kaitlyn Toebe

Andrew Heymann

#### Federal Agencies

NAVFACSW Intergovernmental Branch

U.S. Army Corps of Engineers, Sacramento District

U.S. Department of Agriculture, Natural Resources Conservation Service

U.S. Department of Interior, Fish and Wildlife Service–Endangered Species Division

U.S. Environmental Protection Agency, Region 9

#### State Agencies

California Department of Conservation, Division of Land Resource Protection

California Department of Conservation, Geologic Energy Management Division

California Department of Fish and Wildlife, Region 8

California Department of Forestry and Fire Protection, Fresno-Kings Unit

California Department of Transportation, District 6

California Energy Commission

California Environmental Protection Agency, Department of Toxic Substances Control

California Highway Patrol

California Native American Heritage Commission

California Public Utilities Commission

California Regional Water Quality Control Board, Region 5

California State Reclamation Board

San Joaquin Valley Air Pollution Control District

Southern San Joaquin Valley Archaeological Information Center



State Office of Historic Preservation, Department of Parks and Recreation  
State Water Resources Control Board, Division of Drinking Water

### **Regional and Local Agencies**

Central Valley Flood Protection Board  
City of Kerman, Community Development Department  
City of Mendota, Planning and Community Development  
City of Huron  
City of San Joaquin  
Consolidated Mosquito Abatement District  
Fresno Council of Governments  
Fresno Metropolitan Flood Control District  
Golden Plains Unified School District  
James Irrigation District  
Kings Basin Water Authority  
Kings River Conservation District  
Mendota Unified School District  
Tranquillity Irrigation District  
Tranquillity Resource Conservation District  
Westlands Water District  
Westlands Water District (Westside Subbasin Groundwater Sustainability Agency)  
Westside Resources Conservation District

### **Native American Tribes**

Dumna Wo Wah  
Dumna Wo Wah Government  
Picayune Rancheria of the Chukchansi Indians  
Santa Rosa Rancheria Tachi Yokut Tribe  
Table Mountain Rancheria

### **Organizations, Individuals, and Other Interested Parties**

Adams Broadwell Joseph & Cardozo  
Nancy R. Andrews  
Boyce Land Co. Inc.  
Califland Corporation  
Chevron USA Inc.  
Joe Coelho, Jr. Trustee

Downey Brand LLP

John E. Dresick, Trustee

Michelle L. Dresick, Trustee

Neil Gonella

Laborers Intl Union of N. America, Local Union 294

Lozeau Drury, LLP

Sukhbir S. and Paramjeet K. Nagra

Thomas E. Nichols, Jr.

Saje Farming Co. LP

Saje Farming Co, II LP

Christopher R. Woolf, Trustee

Christopher R. Woolf, Trustee (Land)

Michael T. Woolf, Trustee

Rebecca L. Kaser, Trustee