ROSEMARY SOLAR AND ENERGY STORAGE COMPLEX

Draft Environmental Impact Report

EIR No. 8575
CUP Nos. 3795, 3796, 3797, and 3798
State Clearinghouse No. 2024110253

Prepared for
Fresno County Department of
Public Works and Planning

August 2025

ESA



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Acronyms and Other Abbreviations

Abbreviation	Definition
°F	Fahrenheit
AAQA	ambient air quality analysis
AB	Assembly Bill
ACF	Advanced Clean Fleets
AE-20	Exclusive Agricultural, 20-acre minimum parcel size zone district
AFY	acre-feet per year
Air Basin	San Joaquin Valley Air Basin
AIS	air-insulated substation
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
AMM	Avoidance and Minimization Measures
APLIC	Avian Power Line Interaction Committee
APM	Applicant-proposed measures
APN	Assessor's Parcel Number
Applicant	Rosemary Solar, LLC
basin plan	water quality control plan
Basin Plan	*Water Quality Control Plan for the Tulare Lake Basin*
battery ESS	battery energy storage system
BMP	best management practice
BPS	Best Performance Standards
Btu	British thermal units
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGEM	California Geologic Energy Management Division
CalGreen	California Green
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation

Abbreviation	Definition
CAP	climate action plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAP	Comprehensive Climate Action Plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDMR	California Division of Mine Reclamation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHP	California Highway Patrol
CMP	Congestion Management Process
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COG	Council of Governments
County	Fresno County government
CPRG	Climate Pollution Reduction Grants
CPUC	California Public Utilities Commission
CUP	conditional use permit
CVP	Central Valley Project
CWA	Clean Water Act
D.	Decision
dB	decibels
dBA	A-weighted decibels
DC	direct current
DOT	U.S. Department of Transportation
DPM	diesel particulate matter

Abbreviation	Definition
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EDD	California Employment Development Department
EIR	environmental impact report
EMF	electric and magnetic field
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Environmental Science Associates
ESS	energy storage system
FCFPD	Fresno County Fire Protection District
FCSD	Fresno County Sheriff's Department
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
Fresno County OAMESP	Fresno County Operational Area Master Emergency Services Plan
FTA	Federal Transit Administration
GAMAQI	SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts*
gen-tie	generation-tie
General Plan	Fresno County General Plan
GHG	greenhouse gas
GIS	gas-insulated substation
GPUSD	Golden Plains Unified School District
GSA	groundwater sustainability agencies
GSP	Groundwater Sustainability Plan
GWh	gigawatt-hours
GWP	global warming potential
HCP	Habitat Conservation Plan
HFTD	High Fire Threat District
Hz	hertz
HMBP	Hazardous Materials Business Plans
HVAC	heating, ventilating, and air conditioning
I-5	Interstate 5
ICF	International Fire Code
IEPR	Integrated Energy Policy Report

Abbreviation	Definition
IOU	investor-owned utilities
JHA	job hazard assessments
KOP	Key Observation Point
kV	kilovolts
LAMP	Local Area Management Program
LCI	Governor's Office of Land Use and Climate Innovation
L_{dn}	day-night noise level
L_{eq}	equivalent sound level
LESA	Land Evaluation and Site Assessment
LGIA	Large Generator Interconnection Agreement
LOS	level of service
M&I	Municipal and Industrial
mph	miles per hour
MT	metric tons
MW	megawatts
MWac	megawatts alternating current
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NEHRP	National Earthquake Hazards Reduction Program
NERC	North American Electric Reliability Corporation
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	nitrogen
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O&M	operation and maintenance
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OSHA	U.S. Occupational Safety and Health Administration
OWTS	On-site Wastewater Treatment Systems
PCAP	Priority Climate Action Plan
PCB	polychlorinated biphenyl

Abbreviation	Definition
PG&E	Pacific Gas and Electric Company
PG&E Reconductoring Project	reconductoring by PG&E along approximately 5 linear miles of the existing Helm–Crescent 70 kV electric transmission line
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
PPV	peak particle velocity
Project	Rosemary Project and PG&E Reconductoring Project
PV	photovoltaic
R.	Rulemaking
Reclamation	U.S. Bureau of Reclamation
RHNA	Regional Housing Needs Allocation
RMS	root mean square
ROG	reactive organic gases
Rosemary Project	construction, operation, maintenance, and decommissioning of a photovoltaic solar electricity generating facility and battery energy storage system in an unincorporated area of Fresno County
Rosemary Shared Facilities	shared infrastructure for the Rosemary Project's three solar and energy storage facilities, consisting of an overhead and/or underground gen-tie line, O&M area, and on-site substation
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	regional water quality control board
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCS	Sustainable Communities Strategy
SED	Safety and Enforcement Division's
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SR	State Route
SRA	State Responsibility Area
SSJVIC	Southern San Joaquin Valley Information Center
State Water Board	State Water Resources Control Board

Abbreviation	Definition
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
TSP	tubular steel pole
UL	Underwriters Laboratories
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibels
VMT	vehicle miles traveled
VOC	volatile organic compounds
WSA	Water Supply Assessment
WWD	Westlands Water District
ZEV	zero-emission vehicles
ZOI	zone of influence

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EXECUTIVE SUMMARY

ES.1 Introduction

ES.1.1 Project Overview

Rosemary Solar, LLC (Applicant) has applied to the Fresno County (County) Department of Public Works and Planning for four unclassified conditional use permits (CUP Nos. 3795, 3796, 3797, and 3798) to construct, operate, maintain, and decommission a photovoltaic solar electricity generating facility and battery energy storage system (the "Rosemary Project") in an unincorporated area of Fresno County. The Applicant proposes four facilities, each on a distinct site:

- Rosemary 1, Rosemary 2, and Rosemary 3 would collectively generate up to approximately 140 megawatts alternating current (MWac) and would have the capacity to store 140 MWac of energy for up to 8 hours.
- The fourth site would host shared facilities consisting of operation and maintenance buildings, a parking area, and an on-site substation in one of two potential locations.

A generation-tie line would deliver power via one of four possible routes to the existing Pacific Gas and Electric Company (PG&E) 70-kilovolt Crescent Switching Station, where the Rosemary Project would interconnect with the grid. The four potential generation-tie line routes range in length between 800 linear feet and approximately 2 linear miles.

The Project also includes the potential reconductoring by PG&E along approximately 5 linear miles of the existing Helm–Crescent 70-kilovolt electric transmission line (the "PG&E Reconductoring Project") to facilitate the interconnection of the Rosemary Project and to enhance electrical system reliability. Reconductoring activities could include replacing or improving existing poles, installing new conductor wires, completing related minor improvements (such as replacing or adding new terminal equipment and circuit breakers) within existing switching station and substation boundaries, and using the proposed equipment storage and laydown area.

The Rosemary Project and the PG&E Reconductoring Project together are referred to as the "Project" in this environmental impact report (EIR).

ES.1.2 Location of the Project Site

The Project site (i.e., the Rosemary Project site plus the PG&E Reconductoring Project site) is in an unincorporated area of Fresno County, within the U.S. Geological Survey San Joaquin 7.5-minute quadrangle in Section 19, Township 16 South, and Range 17 East, and Sections 23 and 24, Township 16 South, and Range 16 East of the Mount Diablo Base and Meridian. The Project site is west of State

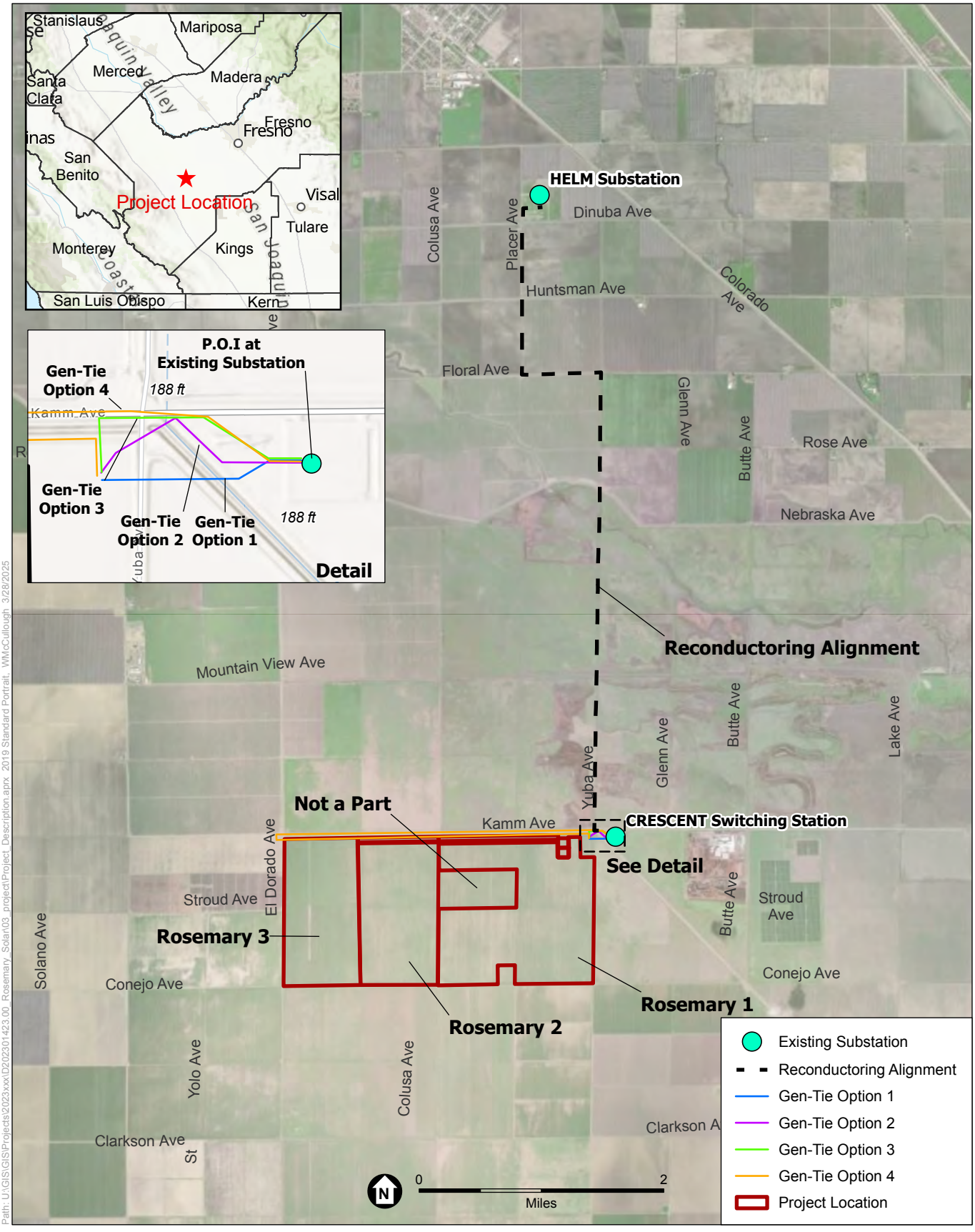
Route 145 (also called Lassen Avenue), approximately 25 miles southwest of Fresno, 6 miles east of Cantua Creek, and 5 miles south of San Joaquin. See **Figure ES-1**, *Project Location*.

The approximately 1,172-acre Rosemary Project site is bounded by West Kamm Avenue to the north, West Conejo Avenue to the south, South Yuba Avenue to the east, and South El Dorado Avenue to the west. South Colusa Avenue bisects the Rosemary Project site on a north-south axis; however, existing access on this road would be preserved. Of these roads, only West Kamm Avenue is paved and public; the remaining roads are unpaved and private. The Rosemary Project site is proposed on lands designated as Agricultural in the Fresno County General Plan and is mapped within the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zone district. See **Figure ES-2**, *Rosemary Project Site Plan*, and **Figure ES-3**, *Optional Project Site Plan*.

The PG&E Reconductoring Project site is located adjacent to the Rosemary Project site to the east and north. The existing PG&E Crescent Switching Station occupies approximately 7 acres just east of the intersection of West Kamm Avenue and South Yuba Avenue, approximately 2.75 miles west of the community of Helm. The existing PG&E Helm Substation occupies an approximately 7.75-acre area within an approximately 46-acre parcel located at 9748 S. Placer Avenue, south of West Manning Avenue on the east side of South Placer Avenue northeast of its intersection with W. Dinuba Avenue, and approximately one half-mile south of the city of San Joaquin. The approximately 5-linear-mile-long, approximately 50-foot-wide corridor where the PG&E Reconductoring Project would occur begins at the PG&E Helm Substation, continues south along South Placer Avenue for 1 mile, east along West Floral Avenue for 0.5 mile, south along South Yuba Avenue for 3 miles, and then east along West Kamm Avenue for 0.1 mile before connecting to the PG&E Crescent Switching Station. The PG&E Reconductoring Project site is shown in Figure ES-1, *Project Location*.

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 CUPs. 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 may also rely on this document in deciding whether to approve permits or issue other approvals for the Project.



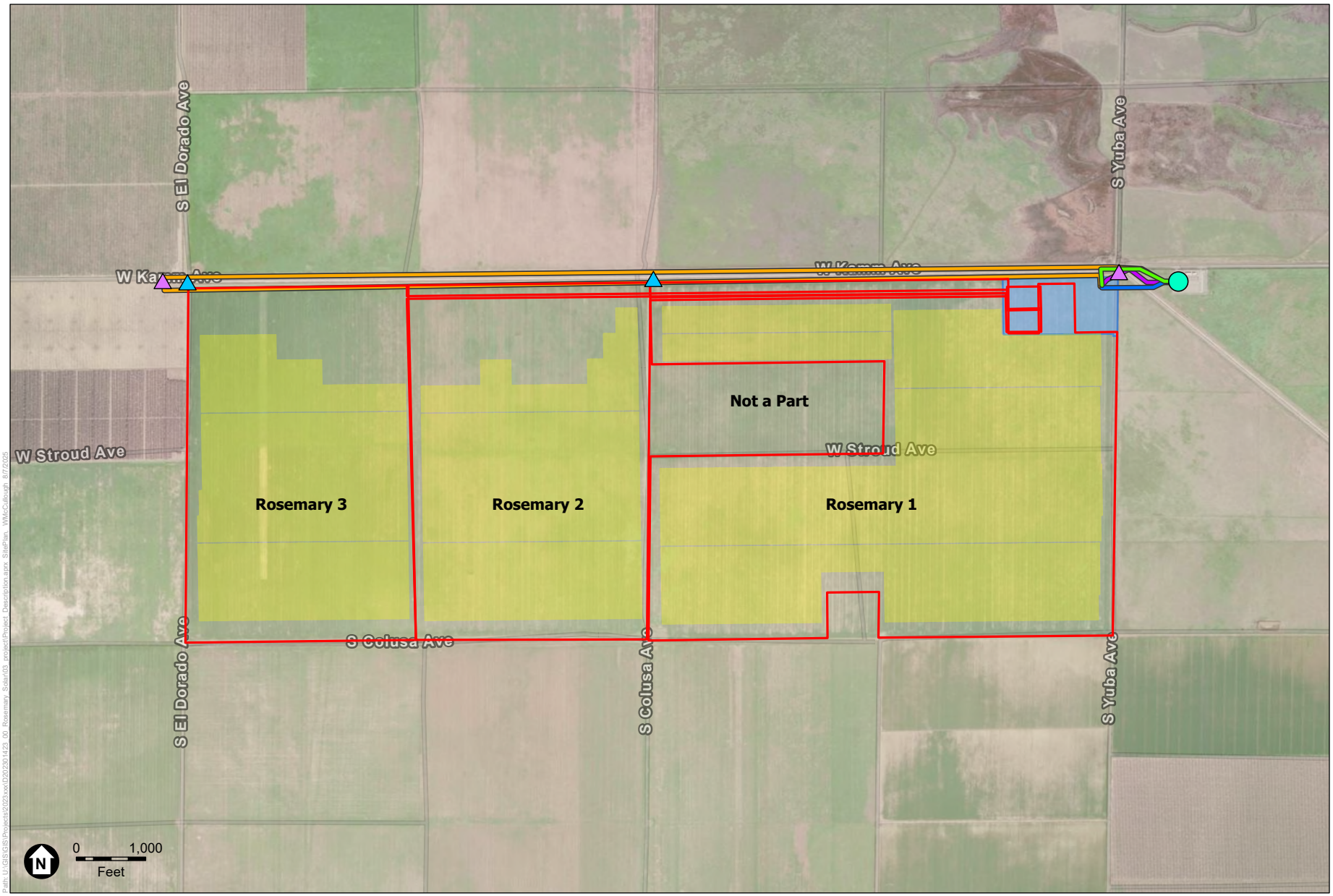
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Source: ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure ES-1
Project Location

ESA



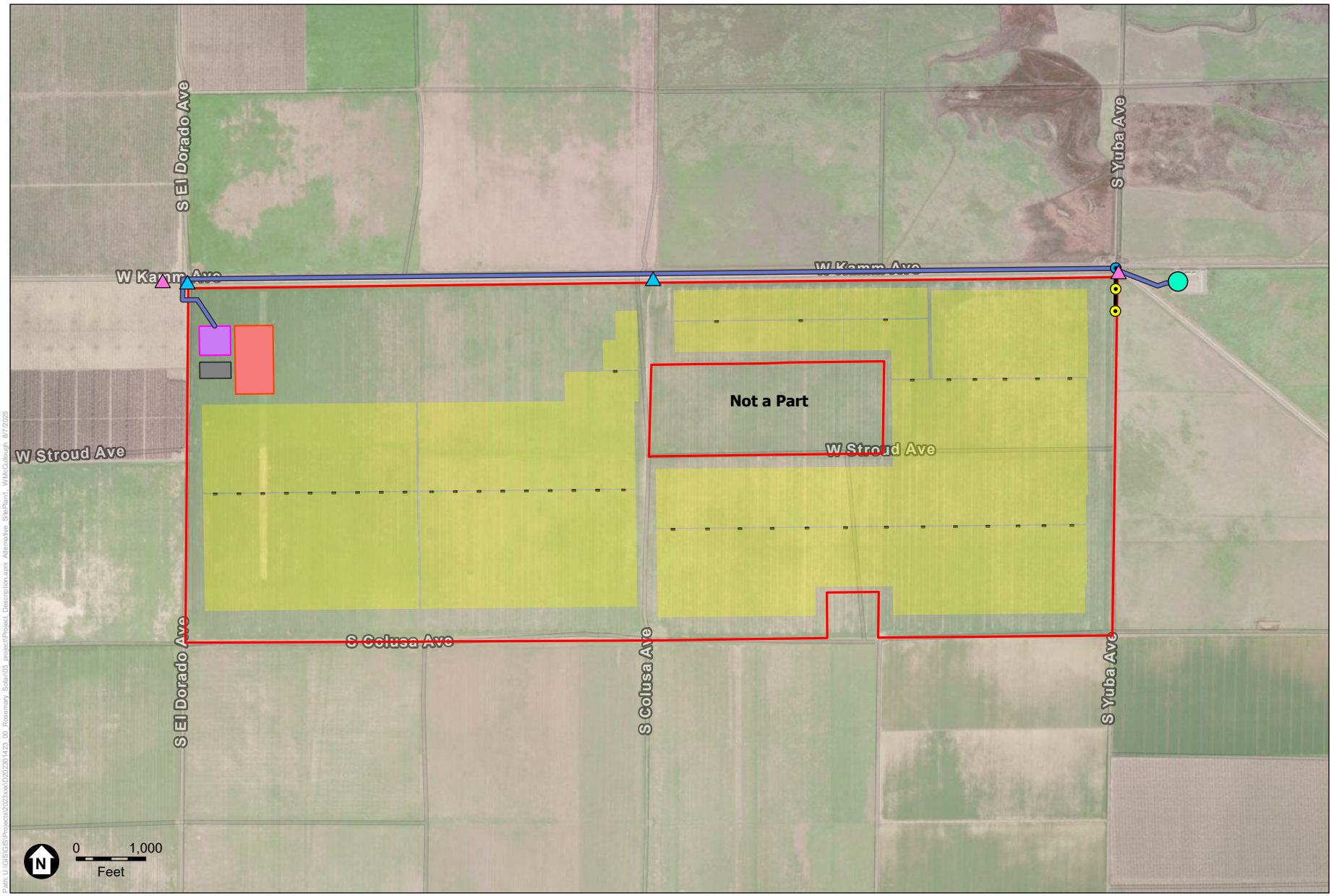
SOURCE: ESA, 2025

Gen-Tie Option 1
Gen-Tie Option 2
Gen-Tie Option 3
Gen-Tie Option 4
Photovoltaic Array
Existing Crescent Substation
Primary Access Point
Secondary Access Point
Shared Facilities
Proposed Project Boundary

Rosemary Solar and Energy Storage System Complex

Figure ES-2
Rosemary Project Site Plan

ESA



SOURCE: ESA, 2025

- Battery Energy Storage System (BESS)
- Site Substation
- Operations and Maintenance Facilities and Parking
- Optional Gen-Tie
- Existing PG&E 70 kV Transmission Line
- Photovoltaic Array
- Existing Crescent Switching Station
- Primary Access Point
- Secondary Access Point
- Pole to be Replaced
- Pole Top Work
- Optional Project Boundary

Rosemary Solar and Energy Storage System Complex

Figure ES-3
Optional Project Site Plan

ES.3 Project Objectives

The Applicant has identified as a primary objective to generate renewable solar electricity from proven technology, at a competitive cost, with low environmental impact, and deliver it to market as soon as possible. Related specific objectives are as follows (ICF 2024):

1. Construct a renewable energy facility that generates up to approximately 140 MWac of electricity and includes energy storage capacity of up to approximately 140 MWac to assist the State of California in achieving the Renewable Portfolio Standard and Senate Bill 350 greenhouse gas reduction goals.[1]
2. Produce and transmit electricity at a competitive cost and develop an economically viable project that will support commercially available financing.
3. Locate the generating facility in a rural portion of Fresno County in proximity to an available connection to the existing electrical distribution system.
4. Create jobs and tax revenues for Fresno County.
5. Provide safe, reliable utility service to the Fresno area community.
6. Minimize environmental impacts by utilizing land that is disturbed or previously degraded; using existing electrical distribution and transmission facilities, rights-of-way, roads, and other existing infrastructure where practicable; minimizing water use; reducing greenhouse gas emissions; and using technology that is available, proven, efficient, easily maintained, recyclable, and environmentally sound.

ES.4 Permits and Approvals

Permits and approvals that are expected to be required for the Project are identified in **Table ES-1**, *Permits and Approvals*.

TABLE ES-1
PERMITS AND APPROVALS

Permitting Agency	Potential Permit Requirements
Fresno County, Department of Public Works and Planning	County permits would be needed for the Rosemary Project, including: • Unclassified conditional use permit to authorize the discretionary development of a solar facility on lands within an AE-20 zone. • Lot merger or parcel map to merge multiple parcels to a single parcel within the Rosemary 1 facility. • Potentially ministerial (non-discretionary) County approvals, including site plan review; building and grading permit(s) for the erection, demolition, or conversion of any building or structure; encroachment permit(s) for any improvements in the County ROW; and development permit(s) for any development within a special flood hazard area.
California Department of Fish and Wildlife	An incidental take permit would be needed for the Rosemary Project and/or the PG&E Project before any authorized take of a state-listed species could occur. A Section 1602 Lake and Streambed Alteration Agreement would be needed before for the PG&E Project lawfully could substantially divert or obstruct the natural flow of any river, stream, or lake, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake.

[1] California's Renewable Portfolio Standard program was established in 2002 with an initial requirement that 20 percent of retail electricity sales be served by renewable resources by 2017. Senate Bill 350 (de León, 2015) accelerated the program by requiring 50 percent of retail electricity sales to be served by renewable resources by 2030.

Permitting Agency	Potential Permit Requirements
California Public Utilities Commission	Approval would be required authorizing PG&E utility network upgrades, including reconductoring and switchyard upgrades, pursuant to General Order 131-E.[a] The CPUC has exclusive permitting jurisdiction over PG&E because PG&E is an investor-owned utility.
State Water Resources Control Board/Central Valley Regional Water Quality Control Board	A National Pollutant Discharge Elimination System Construction Storm Water Permit would be required for the Rosemary Project and may be required for the PG&E Project. A Clean Water Act Section 401 Water Quality Certification may be needed for the PG&E Project.
San Joaquin Valley Air Pollution Control District	District approval of Indirect Source Review for stationary and/or mobile sources may be required for either the Rosemary Project or the PG&E Project, or both.
U.S. Army Corps of Engineers	A Clean Water Act Section 404 (Nationwide) Permit would be needed for the PG&E Project before construction lawfully could occur in non-tidal waters of the U.S..
Natural Resources Conservation Service	One or more ROWs/easement subordinations may be required for conservation easement crossings for the Rosemary Project.
U.S. Fish and Wildlife Service	Authorizations obtained pursuant to the federal Endangered Species Act could be required before any authorized take of a federally listed species could occur. Authorizations could be needed for either the Rosemary Project or the PG&E Project, or both.
U.S. Bureau of Reclamation	One or more ROWs may be required for U.S. Bureau of Reclamation canal crossings.

NOTES: AE-20 = Exclusive Agricultural (20-acre minimum parcel size) zone district; County = Fresno County; CPUC = California Public Utilities Commission; PG&E = Pacific Gas and Electric Company; Project = the Rosemary Project and the PG&E Project, considered together; ROW = right-of-way

a. According to CPUC General Order 131-E, Section III, Subsection B.2, projects meeting the following specific conditions are exempt from CPUC's requirement for a permit to construct: "power lines or substations to be relocated or constructed, which have undergone environmental review pursuant to CEQA as part of a larger project, and for which the final CEQA document… finds no significant unavoidable environmental impacts caused by the proposed line or substation."

SOURCE: Data compiled and developed by Environmental Science Associates in 202

ES.5 Overview of Project Impacts

Sections 3.2 through 3.20 in Chapter 3, *Environmental Analysis of Project Impacts,* 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 of Project Impacts,* the Project would result in no significant and unavoidable impacts.

ES.5.2 Summary of Project Impacts and Mitigation Measures

Table ES-2*, Summary of Impacts and Mitigation Measures*, outlines the environmental impacts of the Project and recommended mitigation measures. Should these measures be adopted, they would avoid or substantially reduce potential significant impacts of the Project. For five of the resource areas considered under CEQA (i.e., 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. An analysis of Project impacts is provided on a resource-by-resource basis in Chapter 3, *Environmental Analysis of Project Impacts*. Within each resource area, potential significant direct and indirect impacts are numbered sequentially. Cumulative impacts either continue the sequence or, if they are specific to a single earlier impact, add a "c" for cumulative to the original impact number.

TABLE ES-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Aesthetics		
Impact 3.2-1: The Rosemary 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 Impact
Impact 3.2-2: The PG&E 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 Impact
Impact 3.2-3: The Rosemary Project would not create a new source of light or glare that would adversely affect day or nighttime views in the area.	None required.	Less-than-Significant Impact
Impact 3.2-4: The PG&E Project would not create a new source of light or glare that would adversely affect day or nighttime views in the area.	None required.	Less-than-Significant Impact
Impact 3.2-1c: The Rosemary Project would not cause or contribute to any cumulative effect related to the degradation of the existing visual character or quality of public views of the site and its surroundings.	None required.	Less-than-Significant Impact
Impact 3.2-2c: The PG&E Project would not cause or contribute to any cumulative effect related to the degradation of the existing visual character or quality of public views of the site and its surroundings.	None required.	Less-than-Significant Impact
Impact 3.2-3c: The Rosemary Project would not cause or contribute to any cumulative effect related to a new source of light and glare which would adversely affect day or nighttime views in the area.	None required.	Less-than-Significant Impact
Impact 3.2-4c: The PG&E Project would not cause or contribute to a significant cumulative effect due to the creation of a new source of light or glare that would adversely affect day or nighttime views in the area.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Agriculture and Forestry Resources		
Impact 3.3-1: The Rosemary 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 Impact
Impact 3.3-1c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to 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 Impact
Air Quality		
Impact 3.4-1: The Project would not conflict with or obstruct implementation of the applicable air quality plan.	None required.	Less-than-Significant Impact
Impact 3.4-2: The Project would result in a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.	None required.	Less-than-Significant Impact
Impact 3.4-3: The Rosemary Project would expose sensitive receptors to pollutant concentrations and risk of contracting Valley Fever.	**Mitigation Measure 3.4-3: Valley Fever Management Plan** Prior to the initiation of ground disturbing activities, a Valley Fever Management Plan shall be prepared and provided to the County for review and approval. The Plan shall be implemented as approved, and shall include a program to limit the potential for exposure to *Coccidioides* from construction activities and to identify appropriate worker training, dust management, and safety procedures that shall be implemented. At a minimum, the Plan shall include the following program requirements: • Equipment, vehicles, and other items shall be cleaned thoroughly of dust before they are moved off-site to other work locations. • Wherever possible, grading and trenching work shall be phased so that earthmoving equipment operates well ahead or downwind of workers on the ground. • The area immediately behind grading or trenching equipment shall be sprayed with water. If a water truck runs out of water before dust is dampened sufficiently, ground workers exposed to dust shall leave the area until a truck resumes water spraying. • All heavy-duty earthmoving vehicles shall be closed-cab and equipped with a High Efficiency Particulate Air (i.e., HEPA) filtered air system. • N95 dust masks shall be provided to on-site workers for the duration of the construction period.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• Workers shall receive training to recognize the symptoms of Valley Fever and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Fresno County Planning and Community Development Department. • A Valley Fever informational handout shall be provided to all on-site construction personnel. The handout shall provide, at a minimum, information regarding the symptoms, health effects, preventive measures, and treatment.	
Impact 3.4-4: The PG&E Project would expose sensitive receptors to pollutant concentrations and risk for contracting Valley Fever.	None required.	Less-than-Significant Impact
Impact 3.4-1c: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect relating to conflict with or obstruction of the implementation of the applicable air quality plan.	None required.	Less-than-Significant Impact
Impact 3.4-2c: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect associated with a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard or violate any air quality standard or contribute substantially to an existing or projected air quality violation.	None required.	Less-than-Significant Impact
Impact 3.4-3c: The Rosemary Project would not cause a cumulatively considerable contribution to any significant cumulative effect associated with exposure of sensitive receptors to pollutant concentrations and risk of contracting Valley Fever.	None required.	Less-than-Significant Impact
Impact 3.4-4c: The PG&E Project would not cause a cumulatively considerable contribution to a significant cumulative effect associated with exposure of sensitive receptors to pollutant concentrations and risk of contracting Valley Fever.	None required.	Less-than-Significant Impact
Biological Resources		
Impact 3.5-1: The PG&E Project could have a substantial adverse direct or indirect impact on special-status plants.	**Mitigation Measure 3.5-1: Protection of Rare Plants** For any rare, endangered or special-status plants identified along the PG&E Project route, PG&E shall implement the following protection measures based on its 2006 San Joaquin Valley O&M HCP: • If a rare plant species is present, a qualified biologist will stake and flag exclusion zones of 100 feet around plant occupied habitat. (AMM 12)	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• If a rare annual plant species is present, O&M activities will occur after plant senescence and prior to the first significant rain to the extent practicable. (AMM 13) • If a rare plant species is present, the upper 4 inches of topsoil will be stockpiled separately during excavations. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards, after approval from USFWS and/or CDFW. (AMM 14)	
Impact 3.5-2: The Rosemary Project could have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species.	**Mitigation Measure 3.5-2: Designated Biologist During Construction** Prior to the issuance of grading or building permits, the Project operator will designate a lead biologist with the qualifications (i.e., relevant training and experience with special-status species that could potentially occur onsite) to oversee compliance with protection measures for all listed and other special-status species. The lead biologist or another qualified biologist will be on the Project site during initial vegetation clearing and grading. After grading is complete, the lead biologist or another qualified biologist will visit the Project site at least weekly during construction activities throughout the construction phase, and as needed during decommissioning. The lead biologist and qualified biologists will have the right to halt all activities to avoid impacts on special-status species and to establish no-disturbance buffers. Work will proceed only after hazards to special-status species are removed, and the species is no longer at risk. While onsite, the lead biologist or qualified biologist will carry a copy of all compliance measures and appropriate plans. **Mitigation Measure 3.5-3: Measures for the Avoidance and Protection of Biological Resources** During construction and operations, the contractor will implement the following general avoidance and protective measures to protect special-status wildlife species. • The contractor will limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations will be confined to the smallest areas possible. All Project disturbance areas will be clearly demarcated with signs, stakes, and/or flagging prior to construction to avoid non-Project areas and natural resources where possible. • Spoils will be stockpiled in disturbed areas that lack native vegetation. BMPs will be employed to prevent erosion in accordance with the Project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected erosion will be remedied as described in the Project SWPPP. • All personnel entering the Project site will attend worker environmental awareness training provided by the lead biologist or their designee before beginning work onsite. Th Worker environmental awareness training will occur before construction activities begin and as needed thereafter. Worker environmental awareness training will include the following topics: • Information on the potential special-status species and the habitats that may be found within or adjacent to the Project site, including (but not limited to) burrowing owl, monarch butterfly, Swainson's hawk, and nesting birds. • Impact avoidance and reporting requirements of federal and state laws pertaining to potential special-status species. Workers will be instructed to notify the site supervisor and/or lead or qualified biologist immediately if any of these species are present onsite.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• Identification of measures implemented to conserve the special-status species and habitats within or adjacent to the Project site. • Distribution of this information to all personnel who may enter the Project site. • To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth will 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. All holes and trenches, whether covered or not, will be inspected by workers for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they will be thoroughly inspected by workers for trapped animals. If trapped animals are observed, escape ramps or structures will be installed immediately to allow escape. If a listed animal or species of special concern is trapped or injured, then the lead biologist will immediately contact USFWS and/or CDFW to identify an individual with the appropriate permit or authorization to handle listed species and to determine who will bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care. • 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 will be thoroughly inspected 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 will not be moved until the lead or another qualified biologist has been consulted. If the animal is a listed species, then work will immediately halt in the vicinity, and the animal will be allowed to move from the structure and the work area of its own accord. Listed species will not be handled or captured by anyone without the appropriate permit or authorization. • Drivers/operators of vehicles and equipment parked at worksites will inspect the ground beneath the vehicle or equipment for the presence of wildlife prior to moving the vehicle/ equipment. If an animal is present, the lead biologist or another qualified biologist will be notified and the animal will be left to move on its own. • Project vehicles and equipment will use existing routes of travel. Cross-country vehicle and equipment use beyond the demarcated Project disturbance areas will be prohibited. • During construction and operations, all vehicles shall maintain a speed limit of no more than 20 mph in all project areas during the daytime and 10 mph at night. • Following construction, the Project owner shall utilize a wildlife-friendly fence design to allow passage by San Joaquin kit fox and other small mammals, such as by including a 4-to-6-inch gap at ground level for passage, or by providing openings at intervals around the facility perimeter. • A long-term trash abatement program will be established for construction, O&M, and decommissioning. The plan will be submitted to the County prior to construction. Personal trash and food items will be placed in a central, closed container and removed from worksites daily to reduce the attraction of wildlife, such as common ravens (*Corvus corax*), coyotes (*Canis latrans*), and feral dogs. • Workers will be prohibited from bringing pets and firearms to the Project site and from feeding wildlife in the vicinity. • Intentional killing or collection of any wildlife species is prohibited.	

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	Mitigation Measure 3.5-4: Avoid Impacts on Monarch Butterfly To avoid monarch individuals (adults, eggs, and larvae), the contractor should remove host plants for monarch butterfly during the winter months (October 1–February 28) when individuals in any life stage would not be present in the Project site. If the removal of the host plants occurs between March 1 and September 30, a qualified biologist should conduct a preconstruction survey for all life stages on the plants and avoid removing the plants until the monarchs have completed their life cycle and are no longer present. **Mitigation Measure 3.5-5: Burrowing Owl Protection Measures** A qualified biologist shall conduct a pre-construction survey for burrowing owls 14 to 30 days prior to construction in accordance with current CDFW protocol (CDFG 2012). The survey shall cover all accessible grassland areas within 500 feet of the area to be disturbed by construction, checking for adult and juvenile burrowing owls and signs of burrowing owl occupation (e.g., whitewash, pellets, bones, or feathers). A qualified biologist shall provide a pre-construction worker education program to contractors and their employees that describes the life history and species protection measures that are in effect to avoid impacts on burrowing owls that could occur on-site during construction. If inactive burrowing owl burrows are detected any time of the year, the burrows may be excavated with a shovel to prevent burrowing owls from re-using them during construction. The burrows' inactive status will be determined by the approved biologist through monitoring prior to burrow excavation. If active (occupied) burrowing owl burrows are detected, no ground-disturbing activities, such as vegetation clearance, grading, or other construction activities, will be permitted within a no-disturbance buffer around the burrow. The size of any employed no-disturbance buffers will be 330 feet (100 meters) from the active burrow during the breeding season (February 1 to August 31) and 165 feet (50 meters) from the active burrow during the nonbreeding (winter) season (September 1 to January 31), unless otherwise authorized by a qualified biologist as described below. Depending on the level of disturbance, a smaller buffer may be established by a qualified biologist based on the visibility and sensitivity responses of each individual burrowing owl and may include the placement of visual buffers. If the qualified biologist determines there is a potential for take of burrowing owl that cannot be avoided, the Project owner shall consult with CDFW regarding the potential for take of burrowing owl and comply with any Incidental Take Permit issued by CDFW.	

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.5-3: The PG&E Project could have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species.	**Mitigation Measure 3.5-6: Protection of Crotch's Bumblebee** No more than 30 days prior to construction, a qualified biologist with expertise in bees shall conduct a Crotch's bumble bee survey in suitable nesting, foraging, and overwintering habitat (grassland) areas that may be impacted by PG&E Project construction, and areas within 100 feet. A minimum of three surveys shall be conducted over a three-day period within a temperature range of 15°C and 30°C between March 1 and October 31 following the guidance outlined in the California Bumble Bee Atlas. If an active nest is identified, a 45-foot no-disturbance buffer shall be established to reduce the risk of accidental take. If the no-disturbance buffer cannot be maintained, PG&E shall seek take coverage for this species under the California Endangered Species Act.	Less-than-Significant Impact
Impact 3.5-4: The Rosemary Project could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds.	**Mitigation Measure 3.5-7: Protection of Nesting Birds, Including Swainson's Hawk** Before any work is conducted from February 15 to September 15, a qualified biologist with expertise in birds shall conduct a preconstruction survey to determine whether any birds are nesting in or near the work area. The preconstruction survey shall be conducted no earlier than seven days before the start of work from February 15 through May, and no earlier than 15 days before the start of work from June through September 15. If active nests are found during the survey, the biologist shall determine an appropriately sized buffer around the nest in which no work would be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the qualified biologist, and would be based on the nesting species, its sensitivity to disturbance, and the expected types of disturbance. Typical nest buffers range in size from 250 feet for passerine birds, 500 feet for common raptors, and 0.25-mile for Swainson's hawk.	Less-than-Significant Impact
Impact 3.5-5: The PG&E Project could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds.	None required.	Less-than-Significant Impact
Impact 3.5-6: The PG&E Project could have a substantial adverse effect on state and federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means while reconductoring is underway.	**Mitigation Measure 3.5-8: Habitat Restoration and Monitoring** If temporary impacts to wetland features cannot be avoided, the following requirements and minimum performance standards that are typical of regulatory permit requirements from the California Department of Fish and Wildlife, Regional Water Quality Control Board, and U.S. Army Corps of Engineers, shall be implemented. At least 30 days before the completion of Project activities, the Project owner shall submit a Restoration Plan to CDFW for review and written approval. No Project activities shall commence until the Restoration Plan is approved by CDFW in writing. The plan shall describe the on-site restoration of temporary impacts on wetland habitat, including monitoring and success criteria. Restoration and monitoring shall be guided by a qualified biologist experienced in wetland habitat restoration. Restoration shall include protocols for replanting native vegetation removed before or during construction, and management and monitoring of the plants to ensure replanting success. The plan shall be implemented within the same calendar year as the completion of Project activities unless otherwise approved in writing by CDFW. More than one plan may be necessary for restoration activities in different locations.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	The following measures shall apply to site restoration: • Areas affected by construction-related activity shall be replanted or reseeded with locally collected and grown native shrubs and herbaceous species suitable for wetland locations, under guidance from a qualified restoration biologist. • To ensure a successful revegetation effort, all plants shall be monitored and maintained as necessary for 5 years. At the end of the 5 years of monitoring, with at least 3 years without supplemental irrigation, each category of plantings (e.g., herbs, shrubs) shall have a minimum of 85 percent survival at the end of the minimum monitoring period, and plantings shall attain 70 percent cover after 3 years and 75 percent cover after 5 years, unless approved in writing by CDFW. Survival and cover criteria shall both be required unless the herbaceous or spreading plants cannot be differentiated by individual, in which case only cover success criteria are required.	
Impact 3.5-7: The Rosemary Project could interfere substantially with established native resident or migratory wildlife corridors.	Mitigation: Implement Mitigation Measure 3.5-3: Measures for the Avoidance and Protection of Biological Resources	Less-than-Significant Impact
Impact 3.5-8: The PG&E Project could interfere substantially with established native resident or migratory wildlife corridors.	None required.	Less-than-Significant Impact
Impact 3.5-9: The Rosemary Project could conflict with local policies or ordinances protecting biological resources.	Mitigation: Implement Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.4-5, 3.4-6, 3.5-7, and 3.5-8.	Less-than-Significant Impact
Impact 3.5-10: The PG&E Project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	None required.	Less-than-Significant Impact
Impact 3.5-11: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect on special-status plants, special-status terrestrial wildlife species, or migratory birds.	None required.	Less-than-Significant Impact
Impact 3.5-12: The PG&E Project would not cause a cumulatively considerable contribution to a significant cumulative effect on state and federally protected wetlands.	Mitigation: Implement Mitigation Measure 3.5-8.	Less-than-Significant Impact
Impact 3.5-13: The Rosemary Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to substantial interfere with established native resident or migratory wildlife corridors.	Mitigation: Implement Mitigation Measure 3.5-6.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.5-14: The Rosemary Project could contribute to a cumulative effect due to conflict with local policies or ordinances protecting biological resources.	Mitigation: Implement Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.5-5, 3.5-6, and 3.5-7.	Less-than-Significant Impact
Cultural Resources and Tribal Cultural Resources		
Impact 3.6-1: Ground disturbing activities associated with the Rosemary 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.	**Mitigation Measure 3.6-1: Cultural Resources Awareness Training** The Project owner shall retain a qualified archaeologist to carry out all mitigation measures related to archaeological and historical resources. Prior to the start of any ground-disturbing activities, the Project owner shall help ensure that the qualified archaeologist has conducted a Cultural Resources Awareness Training for all construction personnel working on the Project. 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 ground-disturbing activities to demonstrate attendance at the awareness training, and provided to the County upon the completion of those activities. **Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources** If archaeological resources are discovered during ground-disturbing activities, all such activities will immediately stop within 100 feet (30 meters) of the discovery, the location of the discovery will be marked for avoidance, and efforts will be made to prevent inadvertent destruction of the find. The qualified archaeologist (and a Native American 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 Project owner. Per CEQA Guidelines section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall (in coordination with a Native American representative if the resource is Native American-related) 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. Construction activities can continue based on direction of the qualified archaeologist.	Less-than-Significant Impact
Impact 3.6-2: Ground disturbing activities associated with the PG&E 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.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.6-3: Ground disturbing activities associated with the Rosemary Project could result in damage to previously unidentified human remains.	**Mitigation Measure 3.6-3: Inadvertent Discovery of Human Remains** If human remains are uncovered during Project activities, the Project owner shall immediately halt work, contact the Fresno County coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines section 15064.5(e). If the County Coroner determines that the remains are Native American in origin, the Native American Heritage Commission (NAHC) will be notified, in accordance with Health and Safety Code section 7050.5(c), and Public Resources Code section 5097.98 (as amended). The NAHC shall designate a Most Likely Descendant for the remains per Public Resources Code section 5097.98, and the Project owner shall help ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further activity under the Project owner has discussed and conferred, as prescribed in Public Resources Code section 5097.98 with the Most Likely Descendant regarding their recommendation for the disposition of the remains, taking into account the possibility of multiple human remains.	Less-than-Significant Impact
Impact 3.6-3: Ground disturbing activities associated with the PG&E Project could result in damage to previously unidentified human remains.	None required.	Less-than-Significant Impact
Impact 3.6-4: Ground disturbing activities associated with the Rosemary 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).	Mitigation: Implement Mitigation Measures 3.6-1, 3.6-2, and 3.6-3.	Less-than-Significant Impact
Impact 3.6-5: Ground disturbing activities associated with the PG&E 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).	None required.	Less-than-Significant Impact
Impact 3.6-6: Ground disturbing activities associated with the Project would not cause a cumulatively considerable contribution to any significant cumulative effect on archaeological resources, buried human remains, or tribal cultural resources.	None required.	Less-than-Significant Impact
Energy		
Impact 3.7-1: The Project would result in consumption and use of energy.	None required.	Less-than-Significant Impact
Impact 3.7-1c: The Project would not cause or contribute to any significant cumulative effect relating to consumption and use of energy.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Geology, Soils, and Paleontological Resources		
Impact 3.8-1: 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 or seismic-related ground failure, including liquefaction.	None required.	Less-than-Significant Impact
Impact 3.8-2: The Rosemary Project would result in soil erosion or loss of topsoil during construction and decommissioning.	None required.	Less-than-Significant Impact
Impact 3.8-3: The PG&E Project would result in soil erosion or loss of topsoil during reconductoring-related construction activities.	None required.	Less-than-Significant Impact
Impact 3.8-4: 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 landslide, lateral spreading, subsidence, liquefaction, or collapse.	None required.	Less-than-Significant Impact
Impact 3.8-5: The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property.	None required.	Less-than-Significant Impact
Impact 3.8-6: The Rosemary 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 Impact
Impact 3.8-7: The Rosemary Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure 3.8-1: Conduct Worker Awareness Training** Before the start of excavation or grading activities at or deeper than 5 feet below ground surface, the project owner will retain a Project Paleontologist who is experienced in teaching non-specialists. The paleontologist will train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that are likely to be seen during construction, and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying the Project Paleontologist, who shall evaluate the significance of the find.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	Mitigation Measure 3.8-2: Stop Work in the Event Fossils Are Encountered In the unlikely event that fossils are discovered during ground disturbing activities, excavation within a 50-foot radius of the discovery will be temporarily halted or diverted until a county-approved Project Paleontologist determines whether the resource requires further study. The paleontologist will document the discovery, as needed evaluate the paleontological resources, and assess the significance of the find. The Project Paleontologist will notify the appropriate agencies to determine the procedures that would be required before construction activities are allowed to resume at the discovery site.	
Impact 3.8-8: The PG&E Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	None required.	Less-than-Significant Impact
Impact 3.8-7c: The Project would not cause or contribute to any potential significant adverse cumulative effect relating to paleontological resources.	None required.	Less-than-Significant Impact
Impact 3.8-8c: The Project would not cause or contribute to any potential significant adverse cumulative effect relating to geology and soils.	None required.	Less-than-Significant Impact
Greenhouse Gas Emissions		
Impact 3.9-1: The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment.	None required.	Less-than-Significant Impact
Impact 3.9-2: The Project would be consistent with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions.	None required.	Less-than-Significant Impact
Impact 3.9-3: The Project would not cause a cumulatively considerable contribution to a significant adverse GHG impact.	None required.	Less-than-Significant Impact
Hazards and Hazardous Materials		
Impact 3.10-1: The Rosemary Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None required.	Less-than-Significant Impact
Impact 3.10-2: The PG&E Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.10-3: The Rosemary Solar Facilities would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	None required.	Less-than-Significant Impact
Impact 3.10-4: The Rosemary Project Battery Energy Storage System would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	None required.	Less-than-Significant Impact
Impact 3.10-5: The PG&E Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	None required.	Less-than-Significant Impact
Impact 3.10-6: Implementation of the Rosemary Project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact
Impact 3.10-7: Implementation of the PG&E Project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact
Impact 3.10-8: Implementation of the Rosemary Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	None required.	Less-than-Significant Impact
Impact 3.10-9: Implementation of the PG&E Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	None required.	Less-than-Significant Impact
Impact 3.10-10: The Project would not cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials.	None required.	Less-than-Significant Impact
Impact 3.10-11: The Project would not cause or contribute to a significant adverse cumulative effect due to implementation impairment or physical interference of an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.10-12: The Project would not cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	None required.	Less-than-Significant Impact
Hydrology and Water Quality		
Impact 3.2-1: The Rosemary Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	None required.	Less-than-Significant Impact
Impact 3.11-2: The PG&E Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	None required.	Less-than-Significant Impact
Impact 3.11-3: The Rosemary 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.	None required.	Less-than-Significant Impact
Impact 3.11-4: The PG&E Project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that the sustainable groundwater management of the basin would be impeded.	None required.	Less-than-Significant Impact
Impact 3.11-5: The Rosemary 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 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.11-6: The PG&E 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 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows.	None required.	Less-than-Significant Impact
Impact 3.11-7: The Rosemary Project could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone.	None required.	Less-than-Significant Impact
Impact 3.11-8: The PG&E Project could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone.	None required.	Less-than-Significant Impact
Impact 3.11-9: The Rosemary Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None required.	Less-than-Significant Impact
Impact 3.11-10: The PG&E Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None required.	Less-than-Significant Impact
Impact 3.11-11: The Project would not make a cumulatively considerable contribution to a significant cumulative effect due to violation of any water quality standards or waste discharge requirements or other substantial degradation of surface or ground water quality.	None required.	Less-than-Significant Impact
Impact 3.11-12: The Project would not make a cumulatively considerable contribution to a significant cumulative effect relating to a substantial decrease in groundwater supplies or substantial interference with groundwater recharge such that sustainable groundwater management of the basin may be impeded.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.11-13: The Project would not make a cumulatively considerable contribution to a significant cumulative effect relating to substantial alteration of the existing drainage pattern of the site or area in a manner that 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.	None required.	Less-than-Significant Impact
Impact 3.11-14: The Project would not make a cumulatively considerable contribution to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation.	None required.	Less-than-Significant Impact
Land Use and Planning		
No impact	None required.	No Impact
Mineral Resources		
No impact	None required.	No Impact
Noise		
Impact 3.14-1: The Rosemary Project could generate temporary and permanent noise that would not exceed standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria.	None required.	Less-than-Significant Impact
Impact 3.14-2: The PG&E Project would generate temporary and permanent noise that would not exceed standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria.	None required.	Less-than-Significant Impact
Impact 3.14-3: The Rosemary Project could expose people and/or structures to vibration levels.	None required.	Less-than-Significant Impact
Impact 3.14-4: The PG&E Project could expose people and/or structures to vibration levels.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.14-1c: The Rosemary Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the generation of temporary or permanent noise in excess of standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria.	None required.	Less-than-Significant Impact
Impact 3.14-2c: The PG&E Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the generation of temporary or permanent noise in excess of standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria.	None required.	Less-than-Significant Impact
Impact 3.14-3c The Rosemary Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the exposure of people and/or structures to vibration levels.	None required.	Less-than-Significant Impact
Impact 3.14-4c: The PG&E Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the exposure of people and/or structures to vibration levels.	None required.	Less-than-Significant Impact
Population and Housing		
No impact	None required.	No Impact
Public Services		
No impact	None required.	No Impact
Recreation		
No impact	None required.	No Impact
Transportation		
Impact 3.18-1: The Rosemary Project would generate vehicle miles traveled.	None required.	Less-than-Significant Impact
Impact 3.18-2: The PG&E Project would generate vehicle miles traveled.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.18-3: The Rosemary Project would not substantially increase hazards due to a geometric design feature or incompatible uses.	None required.	Less-than-Significant Impact
Impact 3.18-4: The PG&E Project would not substantially increase hazards due to a geometric design feature or incompatible uses.	None required.	Less-than-Significant Impact
Impact 3.18-5: The Rosemary Project would not result in inadequate emergency access.	None required.	Less-than-Significant Impact
Impact 3.18-6: The PG&E Project would not result in inadequate emergency access.	None required.	Less-than-Significant Impact
Impact 3.18-7: The Project would not cause or contribute to a significant cumulative effect relating to the generation of vehicle miles traveled.	None required.	Less-than-Significant Impact
Impact 3.18-3c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses.	None required.	Less-than-Significant Impact
Impact 3.18-4c: Implementation of the PG&E Project would not cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses.	None required.	Less-than-Significant Impact
Impact 3.18-5c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to inadequate emergency access.	None required.	Less-than-Significant Impact
Impact 3.18-6c: The PG&E Project, in combination with other projects, would not result in a significant cumulative effect due to inadequate emergency access.	None required.	Less-than-Significant Impact
Utilities and Service Systems		
Impact 3.19-1: The Rosemary Project would require the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities which could cause environmental effects.	None required.	Less-than-Significant Impact
Impact 3.19-2: The PG&E Project would require the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities which could cause environmental effects.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.19-3: The Rosemary Project's construction or operational water demand may exceed local or regional supplies.	None required.	Less-than-Significant Impact
Impact 3.19-4: The Rosemary Project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	None required.	Less-than-Significant Impact
Impact 3.19-5: The Rosemary Project could generate 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 Impact
Impact 3.19-1c: The Rosemary Project would not make a cumulatively considerable contribution to any significant impact regarding the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities, which could cause environmental effects.	None required.	Less-than-Significant Impact
Impact 3.19-2c: The PG&E Project would not make a cumulatively considerable contribution to any significant impact regarding the construction or expansion of electrical and telecommunications facilities, which could cause environmental effects.	None required.	Less-than-Significant Impact
Impact 3.19-3c: The Rosemary Project would not cause a cumulatively considerable impact due to construction or operational water demand that may exceed local or regional supplies.	None required.	Less-than-Significant Impact
Impact 3.19-4c: The Rosemary Project would not make a cumulatively considerable contribution to any cumulative effect regarding a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	None required.	Less-than-Significant Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.19-5c: The Rosemary Project would not make a cumulatively considerable contribution to a significant adverse cumulative effect regarding the generation of waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or regarding other impairment of the attainment of solid waste reduction goals.	None required.	Less-than-Significant Impact
Wildfire		
Impact 3.20-1: The Rosemary Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact
Impact 3.20-2: The PG&E Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact
Impact 3.20-3: The Rosemary 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 Impact
Impact 3.20-4: The PG&E 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 Impact
Impact 3.20-5: 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 Impact
Impact 3.20-6: The PG&E 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 Impact

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.20-1c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact
Impact 3.20-2c: The PG&E Project would not cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan.	None required.	Less-than-Significant Impact
Impact 3.20-3c: The Rosemary Project would not cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors.	None required.	Less-than-Significant Impact
Impact 3.20-4c: The PG&E Project would not cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors.	None required.	Less-than-Significant Impact
Impact 3.20-5c: The Rosemary Project would not cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	None required.	Less-than-Significant Impact
Impact 3.20-6c: The PG&E Project would not cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	None required.	Less-than-Significant Impact

NOTES: Applicant = Rosemary Solar, 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 = collectively, the Rosemary Project and the PG&E Reconductoring 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 2025.

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 project's basic objectives 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 following potential alternatives from detailed consideration in this EIR because they failed to meet the screening criteria outlined in Section 4.1, *Alternatives Screening and Development Process*:

- Alternative project sites, including other points of interconnection and other solar energy generation and battery energy storage system sites.
- An alternative renewable energy generation technology, specifically wind energy generation instead of solar energy generation.
- Alternative energy storage technologies, including a rechargeable iron-air battery system or sand battery storage system.

See Section 4.2, *Alternatives Rejected from Detailed Consideration*, in Chapter 4, *Alternatives*, for additional discussion of each of these potential alternatives, including the rationale for not carrying them forward for more detailed review.

ES.6.2 Alternatives Considered in the EIR

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

- No Project Alternative. 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, *West Kamm Avenue Setback Alternative*. Alternative 1 is described in Section 4.3.2 of Chapter 4, *Alternatives*. Alternative 1 would include the same components as the Project as proposed except that the site would be approximately 55 percent of the size of the Rosemary Project as proposed and have approximately 55 percent of the renewable energy generation and battery energy storage capacity. Alternative 1 has been configured to include a buffer of at least 250 feet from the northern boundary to provide a buffer from potential burrowing owl habitat (*Athene cunicularia hypugea*) P. Alternative 1 also has been configured to reduce the proposed Project's impacts on other biological resources, including milkweed (*Asclepias fascicularis)*, loggerhead shrike (*Lanius ludovicianus)*, and northern harrier (*Circus hudsonius)*. Furthermore, the reduction in overall development would substantially reduce subsurface disturbance and the potential to discover previously unidentified subsurface resources and Project-related air emissions.

- Alternative 2, *On-Site Substation Technology Alternative*. Alternative 2 is described in Section 4.3.3 of Chapter 4, *Alternatives*. Alternative 2 would reduce the Rosemary Project surface footprint by between 0.9 to 2.1 acres at the location of the on-site substation. The reduction in site acreage would be accomplished by using a gas-insulated substation instead of the proposed air-insulated substation.
- Alternative 3, *Distributed Generation Alternative*. Alternative 3 is described in Section 4.3.4 of Chapter 4, *Alternatives*. Alternative 3 would generate 140 megawatts of solar energy (the same as the Rosemary Project as proposed) but would rely on the development of a number of geographically distributed small to medium solar photovoltaic systems (e.g., 100 kilowatt-hours to 1 megawatts each) on rooftops situated throughout Fresno County that have been identified as suitable for solar panel installations.

ES.6.3 Comparison of Alternatives

Table 4-1, *Summary of Impacts of the Project and Alternatives*, in Chapter 4 comparatively analyzes the impacts of the No Project Alternative, Alternative 1, Alternative 2, and Alternative 3 relative to the Project. The No Project Alternative would avoid all impacts of the Project and instead would result in environmental impacts 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 Relative to the Project*, summarizes the comparison of the impact significance of Alternative 1, Alternative 2, and Alternative 3 relative to the Project.

TABLE ES-3
COMPARISON OF IMPACTS RELATIVE TO THE PROJECT

Resource Area	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Aesthetics	Same	Same	Less	Less
Agriculture and Forestry Resources	Same	Same	Less	Greater
Air Quality	Less	Less	Less	Same
Biological Resources	Less	Less	Less	Less
Cultural and Tribal Resources	Less	Less	Less	Same
Energy	Less	Same	Less	Same
Geology, Soils, and Paleontological Resources	Less	Less	Less	Same
Greenhouse Gas Emissions	Greater	Greater	Less	Same
Hazards and Hazardous Materials	Same	Same	Less	Same
Hydrology and Water Quality	Less	Greater	Less	Less
Land Use and Planning	Same	Same	Same	Same
Mineral Resources	Same	Same	Same	Same
Noise and Acoustics	Less	Greater	Less	Less
Population and Housing	Same	Same	Same	Same
Public Services	Same	Same	Same	Same
Recreation	Same	Same	Same	Same
Transportation	Less	Same	Less	Same

Resource Area	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Utilities and Service Systems	Less	Less	Less	Same
Wildfire	Same	Same	Less	Same

NOTE: Project = collectively, the Rosemary Project and the PG&E Reconductoring Project
SOURCE: Data compiled by Environmental Science Associates in 2025

ES.7 Environmentally Superior Alternative

Consistent with the CEQA Guidelines, this Draft EIR understands the term *environmentally superior alternative* to be the alternative with the least adverse impacts on the project area and its surrounding environment. Among the Project, No Project Alternative, and Alternatives 1, 2, 3, and 4, the No Project Alternative would avoid all impacts of the Project and instead would result in environmental impacts that reasonably would be expected to occur based on the site's current use of non-irrigated or fallowed agricultural land. Therefore, for this Project, the No Project Alternative is considered the environmentally superior alternative for CEQA purposes. However, the No Project Alternative would fail to meet the basic objectives of the Project. Since the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Determining an environmentally superior alternative can be difficult because of the many factors that must be balanced. For example, Alternative 1 could be preferred because, relative to the Project, it would avoid impacts to biological resources while still meeting most of the basic Project objectives, although to a lesser degree. In contrast, the Project could be preferred because, relative to Alternative 1, it would generate the greatest amount of renewable energy. This would offset the most metric tons of carbon dioxide emissions generated by fossil fuel sources of electricity and have resulting beneficial effects on greenhouse gas emissions and energy. Additionally, the Project would provide greater assistance to the state toward meeting the renewable energy generation targets set in Senate Bill 100.

Alternative 3 could be considered superior to the Project because it would avoid or substantially reduce the Project's significant impacts on air quality, biological resources, and impacts resulting from subsurface disturbance. By contrast, the Project could be considered environmentally superior to Alternative 3 because it includes an energy storage system. This system would help to stabilize the regional grid, thereby reducing the risk of power outages. Power outages can cause greater reliance on backup generators, which can emit significant air pollution and cause fires if not used properly or maintained regularly.

Additional information received or developed during the agency and public review period for the Draft EIR or during the Project approval process that could affect the balancing of the respective benefits and consequences of the alternatives will be considered. Accordingly, while a preliminary determination has been made that Alternative 3 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 based on 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 air quality, biological resources, and hydrology and water quality.

ES.9 Issues to Be Resolved

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

- 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

ICF. 2024. *Project Description for the Rosemary Solar and Storage System Complex Project*. Sacramento, CA. Prepared for Rosemary Solar, LLC, Boston, MA, and Fresno County Public Works and Planning Department, Fresno, CA. April 2024 (Original); October 2024 (Revision 1).

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CHAPTER 1
Introduction

1.1 Project Overview

Rosemary Solar, LLC (the Applicant) has applied to the Fresno County Department of Public Works and Planning for four unclassified conditional use permits (CUP Nos. 3795, 3796, 3797, and 3798) to construct, operate, maintain, and decommission a photovoltaic (PV) solar electricity generating facility and battery energy storage system (ESS) (the *Rosemary Project*) in an unincorporated area of Fresno County. The Applicant proposes four facilities, each on a distinct site. Rosemary 1, Rosemary 2, and Rosemary 3 would collectively generate up to approximately 140 megawatts alternating current (MWac) and have the capacity to store up to approximately 140 MWac of energy. The fourth site would host shared facilities consisting of operation and maintenance (O&M) buildings, a parking area, and an on-site substation. A generation-tie (gen-tie) line would deliver power via one of four possible routes to the existing Pacific Gas and Electric Company (PG&E) 70-kilovolt (kV) Crescent Switching Station, where the Rosemary Project would interconnect with the grid. The four potential gen-tie line routes range in length between 800 linear feet and approximately 2 linear miles.

The Project also includes potential reconductoring by PG&E along approximately 5 linear miles of the existing Helm to Crescent 70 kilovolt (kV) electric transmission line (the *PG&E Project*) to facilitate the interconnection of the Rosemary Project to the regional grid and to enhance electrical system reliability. Reconductoring activities could include replacing or improving existing poles, installing new conductor wires, completing related minor improvements (such as replacing or adding new terminal equipment and circuit breakers) within exiting switching station and substation boundaries, and using the proposed equipment storage and laydown area. The Rosemary Project and the PG&E Project together are referred to as the *Project* in this environmental impact report (EIR).

1.2 Purpose of this Document and Its Use by Agencies

The purpose of this Draft EIR (EIR No. 8575) is to document analysis conducted by and under the direction of Fresno County (County) of the Project's potential environmental impacts. EIR No. 8575 conducts an assessment pursuant to the California Environmental Quality Act (CEQA) and its implementing regulations (the CEQA Guidelines) that describes the environmental and regulatory setting; criteria used to evaluate the significance of potential direct, indirect, and cumulative effects; methods used in evaluating these impacts; and results of the impact assessment. Where a potential significant impact is identified, the EIR identifies one or more mitigation measures that, if implemented, could reduce or avoid that impact. EIR No. 8575 also presents feasible alternatives to the Project, ultimately informing decision-makers and the public about the potential impacts on the physical environment.

The County has the primary responsibility for considering whether to grant its discretionary approval of the Project. As lead agency for the purposes of CEQA, the County has directed the preparation of this Draft EIR. This analysis will be used by the County, in conjunction with other information included in the County's formal record, when considering whether to approve, approve with conditions, or deny discretionary authorizations needed for the Project, including, for example, CUP Nos. 3795, 3796, 3797, and 3798.

Other agencies may also rely on information in this Draft EIR to inform their own permitting decisions and approvals for the Project. A *Responsible Agency* is a public agency, other than the lead agency, that has responsibility for carrying out or approving a project. A *Trustee Agency* is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. In the context of this Project, for example, the California Public Utilities Commission is a Responsible Agency with discretionary permitting authority over PG&E with respect to the PG&E Project, and the California Department of Fish and Wildlife (CDFW) is both a Responsible Agency with permitting authority and a Trustee Agency for fish and wildlife resources that are held in trust by statue for the people of the State (Fish & Game Code sections 711.7[a], 802).

1.3 Public Participation

1.3.1 Scoping

On November 8, 2024, 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; 63 property owners within an area that included the properties within 0.5 mile of the Project site; other interested parties; and the Governor's Office of Land Use and Climate Innovation, State Clearinghouse. The NOP was also emailed to all on the distribution list for whom the County had an email address and posted with the Fresno County Clerk. Additionally, an electronic copy of the NOP was posted on the County's website at: www.co.fresno.ca.us/EIR. The NOP solicited comments on the scope, content, and format of the EIR.

Agencies and members of the public were encouraged to submit their comments to the County by U.S. mail, email, or during a virtual public meeting held on November 19, 2024. 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 November 8, 2024. Notifications provided basic Project information, the date and time of the public scoping meeting, information about how to participate in the scoping meeting, and a brief explanation of the public scoping process. The scoping process and information learned during the scoping process are documented in **Appendix A**, *Scoping Report*.

1.3.2 Public Comment on the Draft EIR

This Draft EIR is available to Tribes; federal, state, and local agencies; and 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: www.co.fresno.ca.us/EIR.

Printed copies of the Draft EIR, or electronic copies provided on USB device, will be available for review at each of the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.
- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno.
- San Joaquin Branch Library, 8781 South Main Street, San Joaquin.

Electronic copies at these locations will contain copies of the reference materials cited and relied upon in the analysis.

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
Project Description

2.1 Project Overview

Rosemary Solar, LLC (Applicant) has applied to the Fresno County (County) Department of Public Works and Planning for four unclassified conditional use permits (CUP Nos. 3795, 3796, 3797, and 3798)[1] to construct, operate, maintain, and decommission a photovoltaic (PV) solar electricity generating facility and battery energy storage system (ESS) (referred to herein as the *Rosemary Project*) in an unincorporated area of Fresno County. The Applicant proposes four facilities, each on a distinct site:

- Rosemary 1, Rosemary 2, and Rosemary 3 would collectively generate up to approximately 140 megawatts alternating current (MWac) and would have the capacity to store 140 MWac of energy for up to 8 hours.
- The fourth site would host shared facilities consisting of operation and maintenance (O&M) buildings, a parking area, and an on-site substation in one of two potential locations.

A generation-tie (gen-tie) line would deliver power via one of four possible routes to the existing Pacific Gas and Electric Company (PG&E) 70-kilovolt (kV) Crescent Switching Station, where the Rosemary Project would interconnect with the grid. The four potential gen-tie line routes range in length between 800 linear feet and approximately 2 linear miles.

The Project also includes facility and infrastructure improvements to be constructed, owned and operated by PG&E (the *PG&E Project*). As part of the PG&E Project, PG&E would reconductor along approximately 5 linear miles of the existing Helm–Crescent 70 kV electric transmission line to facilitate the interconnection of the Rosemary Project and to enhance electrical system reliability. Reconductoring activities could include replacing or improving existing poles, installing new conductor wires, completing related minor improvements (such as replacing or adding new terminal equipment and circuit breakers) within existing switching station and substation boundaries, and using the proposed equipment storage and laydown area. The PG&E Project also would raise a portion of the existing PG&E Crescent Switching Station-Schindler 70 kV power line that runs perpendicular to the proposed Rosemary Project gen-tie line. Raising this portion of the power line by approximately 10-15 feet is proposed to

[1] The Unclassified CUP process allows the County to consider, in its discretion, uses that would be essential or desirable, but that are not allowed as a matter of right within a zoning district. Photovoltaic solar power generation and public utility facilities may be conditionally permitted in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zoning district with the issuance of a CUP.

accommodate the interconnection of the Rosemary Project and to meet clearance requirements set forth in California Public Utilities Commission General Order 95.[2]

The Rosemary Project and the PG&E Project are referred to together as *the Project* in this environmental impact report (EIR).

As lead agency for purposes of the California Environmental Quality Act (CEQA) and its implementing regulations (the CEQA Guidelines), Fresno County is preparing EIR No. 8575 to document its analysis of the Project's potential direct, indirect, and cumulative effects. Although the County is analyzing the environmental impacts of the PG&E Project in this EIR as part of the whole of the Project, it does not have land use jurisdiction over the PG&E Project; PG&E would be subject to oversight by the California Public Utilities Commission (CPUC), which is a responsible agency for purposes of this EIR.

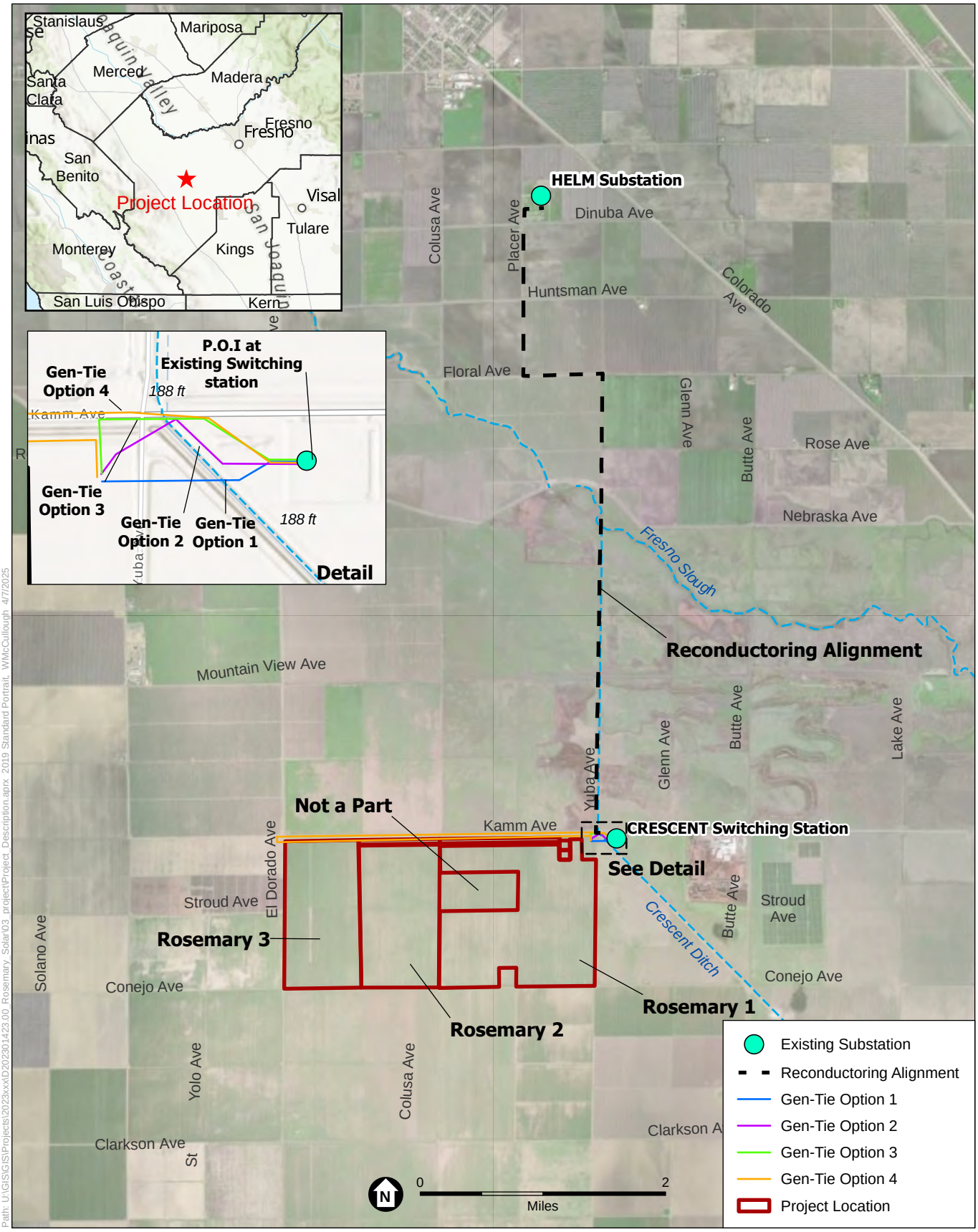
2.2 Location of the Project Site

The Project site (i.e., the Rosemary Project site plus the PG&E Project site) is in an unincorporated area of Fresno County. The Project site is west of State Route 145 (also called Lassen Avenue), approximately 25 miles southwest of Fresno, 6 miles east of Cantua Creek, and 3.8 miles west of Helm. The Rosemary Project site is 5 miles south of San Joaquin; the PG&E Project is closer – approximately 0.8 mile southeast of San Joaquin. The Project site consists of the assessor's parcel numbers identified in **Table 2-1**, *Project Components and Parcels*, and is shown in **Figure 2-1**, *Project Location*.

The approximately 1,172-acre Rosemary Project site is bounded by West Kamm Avenue to the north, West Conejo Avenue to the south, South Yuba Avenue to the east, and South El Dorado Avenue to the west. South Colusa Avenue bisects the Rosemary Project site on a north-south axis; however, existing access on this road would be preserved. Of these roads, only West Kamm Avenue is paved and public; the remaining roads are unpaved and private. The Rosemary Project site is proposed on lands designated Agricultural in the Fresno County General Plan and is mapped within the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zone district.

The PG&E Project site is located adjacent to the Rosemary Project site to the east and north. The existing PG&E Crescent Switching Station occupies approximately 3 acres within an approximately 7-acre site just east of the intersection of West Kamm Avenue and South Yuba Avenue, approximately 2.75 miles west of the community of Helm. The existing PG&E Helm Substation occupies an approximately 7.75-acre area within an approximately 46-acre parcel located at 9748 S. Placer Avenue, south of West Manning Avenue on the east side of South Placer Avenue northeast of its intersection with W. Dinuba Avenue, and approximately one half-mile south of the city of San Joaquin. The approximately 5-linear-mile-long, approximately 50-foot-wide corridor where the PG&E Project would occur begins at the PG&E Helm Substation, continues south along South Placer Avenue for 1 mile, east along West Floral Avenue for 0.5 mile, south along South Yuba Avenue for 3 miles, and then east along West Kamm Avenue for 0.1 mile before connecting to the PG&E Crescent Switching Station. The PG&E Project site is shown in Figure 2-1, *Project Location*.

[2] CPUC General Order 95 specifies minimum ground-to-conductor clearance requirements for overhead electrical lines to help ensure safety and prevent hazards. The requirements vary based on several factors, including the voltage of the conductors, the type of area (public thoroughfare [such as a street], private property, etc.), and whether the conductors are above or across a thoroughfare. For example, conductors over or across public streets generally must maintain a minimum vertical clearance of 18 feet above the surface of the ground.



Source: ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 2-1
Project Location

ESA

TABLE 2-1
PROJECT COMPONENTS AND PARCELS

Project Component	Details	Assessor's Parcel Numbers
Rosemary Solar Project		
Rosemary 1[a]	• 70 MW PV solar power generation facility. • 70 MW ESS.	• 040-160-21S, 040-150-12, 040-150-08, 040-150-06, 040-150-18, 040-150-07, 040-150-14S, 040-150-16, 040-150-13, 040-160-10S, 040-150-11, 040-150-15, 040-160-16S, 040-150-28S, 040-160-20S, 040-150-29S, 040-160-07S, 040-160-05S, 040-160-03S, 040-160-11S, 040-160-13S, 040-160-14, 040-160-17S, 040-160-18S, 040-160-06S, 040-150-20S, 040-150-22, and 040-150-24, all owned by WWD. • 040-150-10, 040-150-17, and 040-160-04S owned by a private landowner. • 040-150-32 and 040-070-24 (access), owned by the U.S. Bureau of Reclamation.
Rosemary 2	• 35 MW PV solar power generation facility. • 35 MW ESS.	• 040-070-26S, 040-150-28S, 040-150-20S, 040-150-29S, and 040-150-22, all owned by WWD. • 040-150-32 and 040-070-24 (access), owned by the U.S. Bureau of Reclamation.
Rosemary 3	• 35 MW PV solar power generation facility. • 35 MW ESS.	• 040-070-25S, 040-070-26S, 040-150-28S, 040-150-29S, 040-150-20S, 040-150-22, and 040-150-06, all owned by WWD. • 040-070-24 (access), owned by the U.S. Bureau of Reclamation.
Rosemary Shared Facilities	Operation and maintenance buildings, parking area, and on-site substation area.	• 040-150-24, 040-150-06, and 040-150-22, all owned by WWD. • 040-150-32 (access) and 040-080-25, owned by the U.S. Bureau of Reclamation. • 040-080-45SU, owned by PG&E.
	Gen-tie line, consisting of any of four separate potential routes ranging in length between 800 linear feet and approximately 2 linear miles.	The gen-tie from the Project substation to the PG&E point of interconnection would also cross one or more of the following parcels, depending on the gen-tie alignment selected: 040-150-32 and 040-080-25 (owned by the U.S. Bureau of Reclamation), 040-080-45SU (owned by PG&E), and 040-070-30S and 040-080-33S (owned by a private landowner).
PG&E Project		
Helm–Crescent 70 kV Reconductoring	• Replacing or improving poles; pulling and tensioning new conductor; and using an equipment storage and laydown area within an approximately 5-linear-mile, 50-foot-wide corridor. • Approximately 2-acre temporary laydown area.	030-100-16, 030-100-22, 040-030-15S, 040-030-17S, 040-030-18S, 040-030-30S, 040-070-40S, all owned by private landowners.[b]
Crescent Switching Station	Minor improvements (replacement or addition of new equipment, such as terminal equipment, circuit breakers, and poles) within existing switching station boundary.	040-080-45SU, owned by PG&E.
Helm Substation	Minor improvements (replacement or addition of new equipment, such as terminal equipment, circuit breakers, and poles) within existing substation boundary.	033-020-32SU.

Project Component	Details	Assessor's Parcel Numbers
PG&E Crescent Switching Station-Schindler 70 kV power line	Existing line runs perpendicular to the proposed Rosemary Project gen-tie line. Would be raised by approximately 10-15 feet for compliance with clearance requirements.	040-150-024, owned by WWD; 040-150-32, owned by the U.S. Bureau of Reclamation

NOTES: ESS = battery energy storage system; gen-tie = generation-tie; kV = kilovolt; MW = megawatt; PG&E = Pacific Gas and Electric Company; Project = the Rosemary Project and the PG&E Project, considered together; PV = photovoltaic; WWD = Westlands Water District

a. As part of the Project, the parcels within Rosemary 1 would be merged into a single parcel.
b. PG&E has an existing right-of-way for the existing electrical line across these privately owned parcels.

SOURCES: ICF 2024:Tables 1 and 2; Rosemary Solar, LLC 2024b

2.3 Existing Land Uses

2.3.1 On-Site Land Uses

2.3.1.1 Rosemary Project Site

The current use of the Rosemary Project site is fallowed farmland. The site has not been irrigated for at least 20 years. The site includes unvegetated areas including roads (paved and unpaved), canals and agricultural ditches, and multiple out-of-service wells. The site includes no buildings, sewage facilities, or lighting sources (Rosemary Solar, LLC 2024a). Gen-tie line route options 1, 2, and 3 would cross a portion of a Natural Resources Conservation Service floodplain conservation easement and/or a U.S. Bureau of Reclamation canal to the north and east of the Rosemary Project site. This part of the Project site and surrounding land are on a relatively flat plain and exhibit little topographic variation (ICF 2024).

2.3.1.2 PG&E Project Site

The PG&E Project site is currently used for energy-related purposes. PG&E's Helm Substation is an existing electric power distribution substation consisting of equipment that reduces the high voltage of electrical power transmission to that suitable for supply to consumers (USA.com 2024). The PG&E Crescent Switching Station is a single-voltage 70 kV facility that connects and disconnects electric circuits to and from the power system. It includes 60- to 80-foot-tall light-duty steel and tubular steel poles (TSPs) and other equipment (PG&E 2017).

2.3.2 Surrounding Land Uses

Land uses surrounding the Project site are listed below. As shown, most of the land near the Project site is used for agricultural purposes. There are no sensitive uses (e.g., residences, schools, or hospitals) within 1,000 feet of the Rosemary Project site; the nearest residence is approximately 1.2 miles to the northwest. There is one residence within 1,000 feet of the PG&E Project site, approximately 80 feet west of the transmission line.

- **North:** Agricultural uses.
- **East:** PG&E's Crescent Switching Station; a fertilizer manufacturer/supplier (True Organic Products); solar PV generating facilities (including the San Joaquin Solar Project, a 21 MW solar PV project that has been operating since 2019 [Global Energy Monitor 2024a], and PG&E's Stroud Solar Station, a 20 MWac project on 123 acres that has been operating since 2011 [Global Energy Monitor 2024b; Correa 2022]); agricultural uses; other businesses; and Fresno Slough.

- **South:** Agricultural.
- **West:** Agricultural (orchards); a solar PV generating facility (Giffen Solar Farm, a 10 MW solar PV project that has been operating since 2012 [Global Energy Monitor 2024c]); Fresno Slough; and residential uses.

2.4 Project Purpose and Objectives

The Applicant has identified as a primary objective to generate renewable solar electricity from proven technology, at a competitive cost, with low environmental impact, and deliver it to market as soon as possible. Related specific objectives are as follows (ICF 2024):

1. Construct a facility that generates up to approximately 140 MWac of electricity and includes energy storage capacity of up to approximately 140 MWac to assist the State of California in achieving the Renewable Portfolio Standard and Senate Bill 350 greenhouse gas reduction goals.[3]
2. Produce and transmit electricity at a competitive cost and develop an economically viable project that will support commercially available financing.
3. Locate the generating facility in a rural portion of Fresno County in proximity to an available connection to the existing electrical distribution system.
4. Create jobs and tax revenues for Fresno County.
5. Provide safe, reliable utility service to the Fresno area community.
6. Minimize environmental impacts by utilizing land that is disturbed or previously degraded; using existing electrical distribution and transmission facilities, rights-of-way, roads, and other existing infrastructure where practicable; minimizing water use; reducing greenhouse gas emissions; and using technology that is available, proven, efficient, easily maintained, recyclable, and environmentally sound.

2.5 Description of the Rosemary Project

The Rosemary Project includes three solar and energy storage facilities (Rosemary Solar 1, 2, and 3) and shared infrastructure consisting of an overhead and/or underground gen-tie line, O&M area, and on-site substation in one of two potential locations (referred to in this EIR as the *Rosemary Shared Facilities*). Except for the gen-tie line, the components of each of the four facilities would be surrounded by a chain-link security fence measuring up to 8 feet tall.

Rows of solar PV modules mounted on single-axis trackers and racking equipment would occupy most of the Rosemary Project site. The Rosemary Project would also include the following elements, among others:

- An underground direct current (DC) collector system.
- Redundant communications line (or microwave tower)
- Electrical equipment pads with inverters and transformers within the PV facilities.

[3] California's Renewable Portfolio Standard program was established in 2002 with an initial requirement that 20 percent of retail electricity sales be served by renewable resources by 2017. Senate Bill 350 (de León, 2015) accelerated the program by requiring 50 percent of retail electricity sales to be served by renewable resources by 2030.

- An approximately 15-acre ESS with regularly spaced battery units and electrical equipment pads.
- An underground or aboveground AC collector system.
- An approximately 3.0-acre Rosemary Project substation.
- An approximately 1.5-acre O&M area including an office and adjacent warehouse.
- A parking area with approximately 10 parking spaces.
- Access roads.

Areas within the fences would be accessed via a primary graveled site access road in the northeast part of the Rosemary Project site and other compacted earth access roads across the site. The Rosemary Project would include up to six water retention basins, depending on final drainage requirements. It would also include a 70 kV overhead and/or underground gen-tie line that would connect the on-site substation to PG&E's existing 70 kV Crescent Switching Station.

Four options for the gen-tie line are being considered, ranging in length from approximately 800 linear feet to approximately 2 linear miles. Preliminarily proposed site plans for the Rosemary Project are shown in **Figure 2-2**, *Rosemary 1*; **Figure 2-3**, *Rosemary 2*; **Figure 2-4**, *Rosemary 3;* **Figure 2-5**, *Rosemary Shared Facilities*; and **Figure 2-6**, *Optional Project Site Plan*. Site plan components are described in more detail in the following sections.

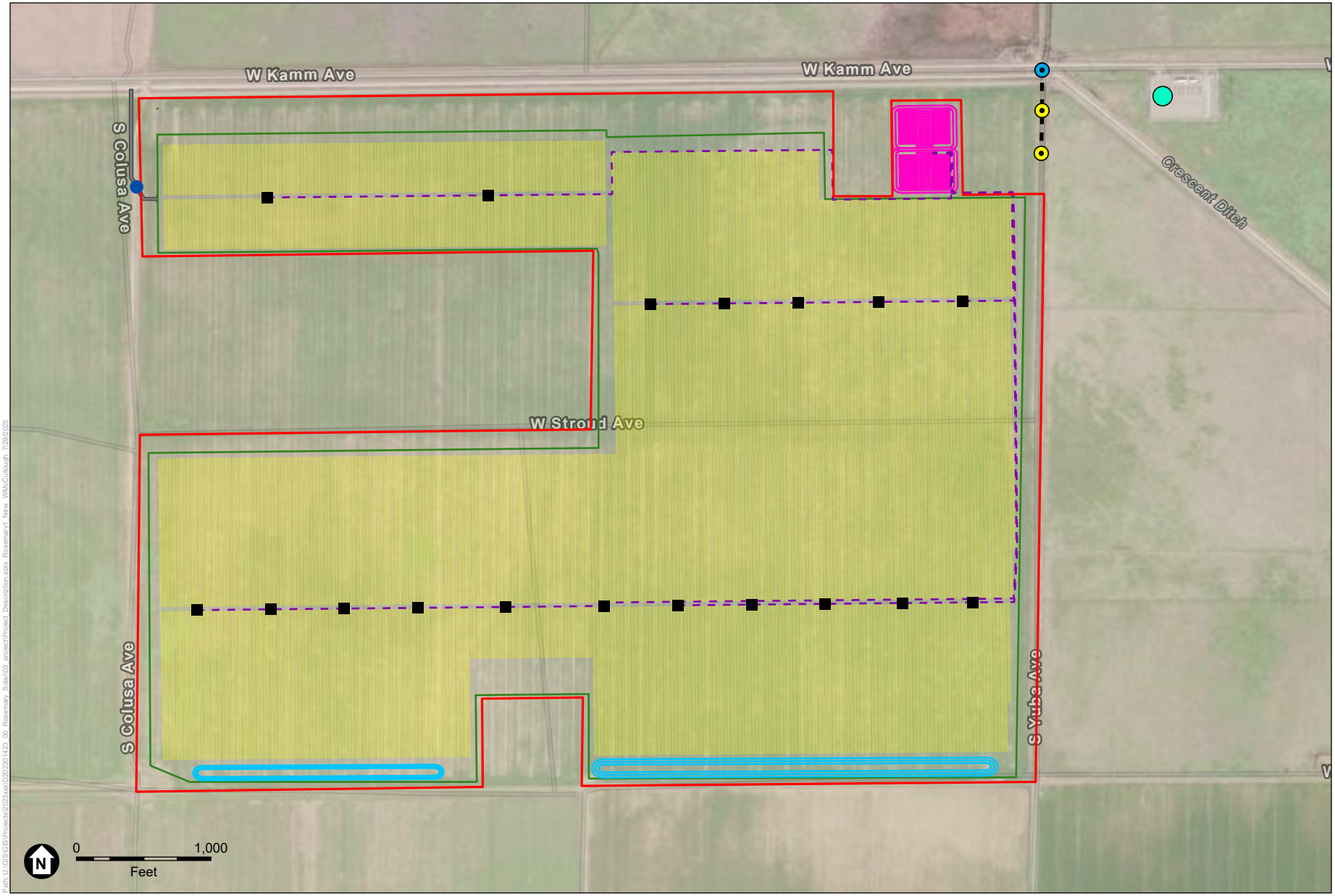
2.5.1 Solar Facility

2.5.1.1 Photovoltaic Modules

The Rosemary Project would consist of solar arrays that would generate electricity directly from sunlight. A solar array consists of a row of PV modules (panels) that are electrically connected and supported by a common tracking structure. Each row typically would have approximately 84 modules and would be separated from other rows by up to 25 feet.

The PV modules would be mounted on a corrosion-resistant metal single-axis tracking system anchored by steel support posts driven approximately 8–15 feet into the ground. Concrete foundations would not be required to stabilize the Project's tracker structures. The trackers would rotate along a fixed axis, allowing the PV modules to track the sun's movement throughout the day.

The proposed PV modules (as currently designed) would measure approximately 80 inches tall and 50 inches wide; they would be made of thin film semiconductor cells enclosed by heat-strengthened glass with anti-reflection technology on the front/top and anodized aluminum on the back (ICF 2024). When the PV modules are at their steepest angle of tracker rotation, the tops of the modules would be up to 12 feet above the ground surface and their lower edges would be approximately 20 inches above ground. The final PV module design may vary depending on availability, cost, or other procurement factors, but the specifications are expected to fall within the assumed parameters.



SOURCE: ESA, 2025

- Existing Crescent Switching Station
- Gate
- Inverter and Transformer Pad
- Pole to be Replaced
- Pole Top Work
- Existing PG&E 70 kV Transmission Line
- Site Fence
- Photovoltaic Array
- Rosemary 1 Battery Energy Storage System (BESS)
- MV Collection
- Retention Basin
- Access Road
- Facility Boundary

Rosemary Solar and Energy Storage System Complex

Figure 2-2
Rosemary 1

ESA



SOURCE: ESA, 2025

- Inverter and Transformer Pad
- Site Fence
- Photovoltaic Array
- Rosemary 2 Battery Energy Storage System (ESS)
- MV Collection
- Retention Basin
- Access Road
- Facility Boundary

Rosemary Solar and Energy Storage System Complex

Figure 2-3
Rosemary 2

ESA



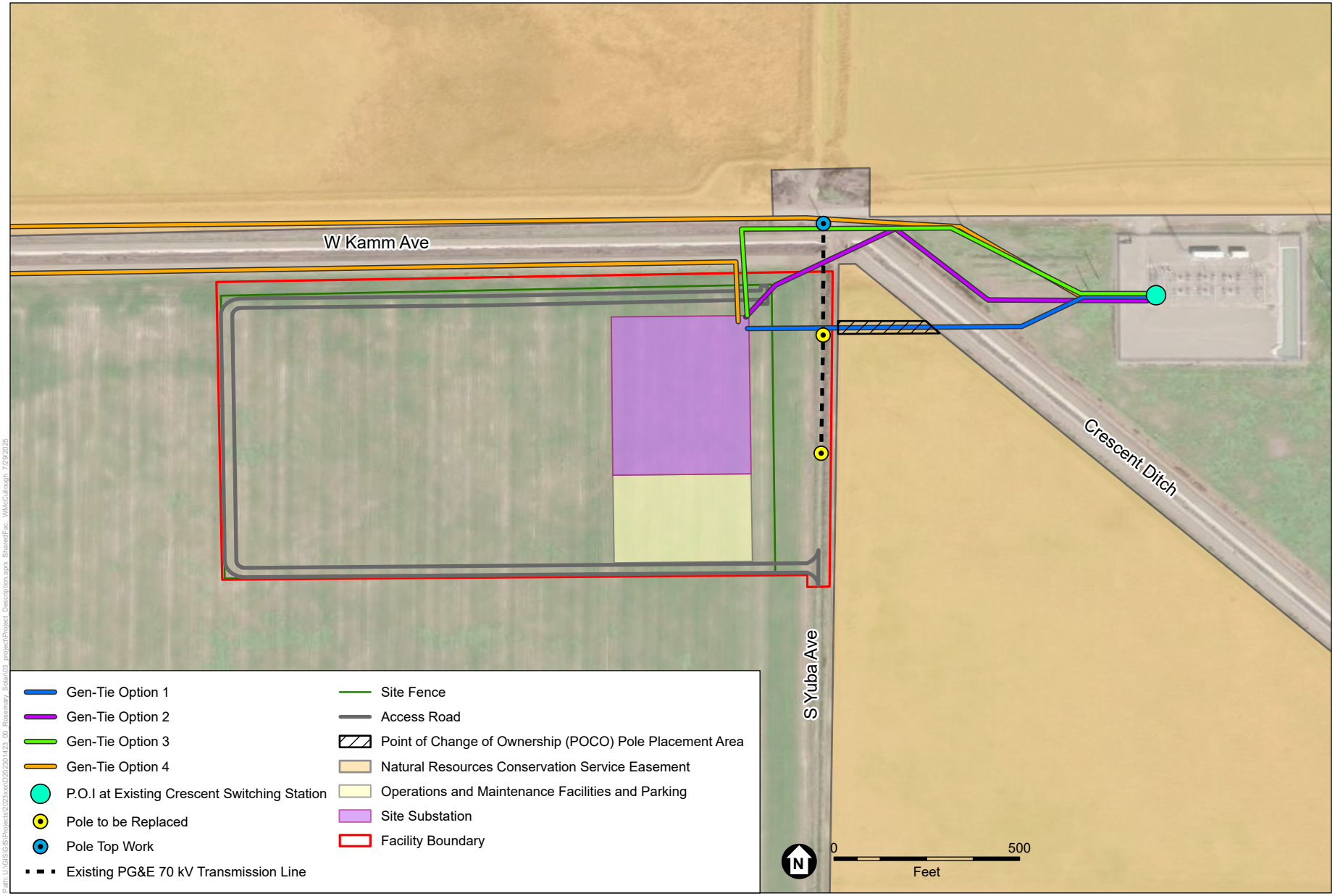
SOURCE: ESA, 2025

- Inverter and Transformer Pad
- Site Fence
- Photovoltaic Array
- Rosemary 3 Battery Energy Storage System (ESS)
- MV Collection
- Retention Basin
- Access Road
- Facility Boundary

Rosemary Solar and Energy Storage System Complex

Figure 2-4
Rosemary 3

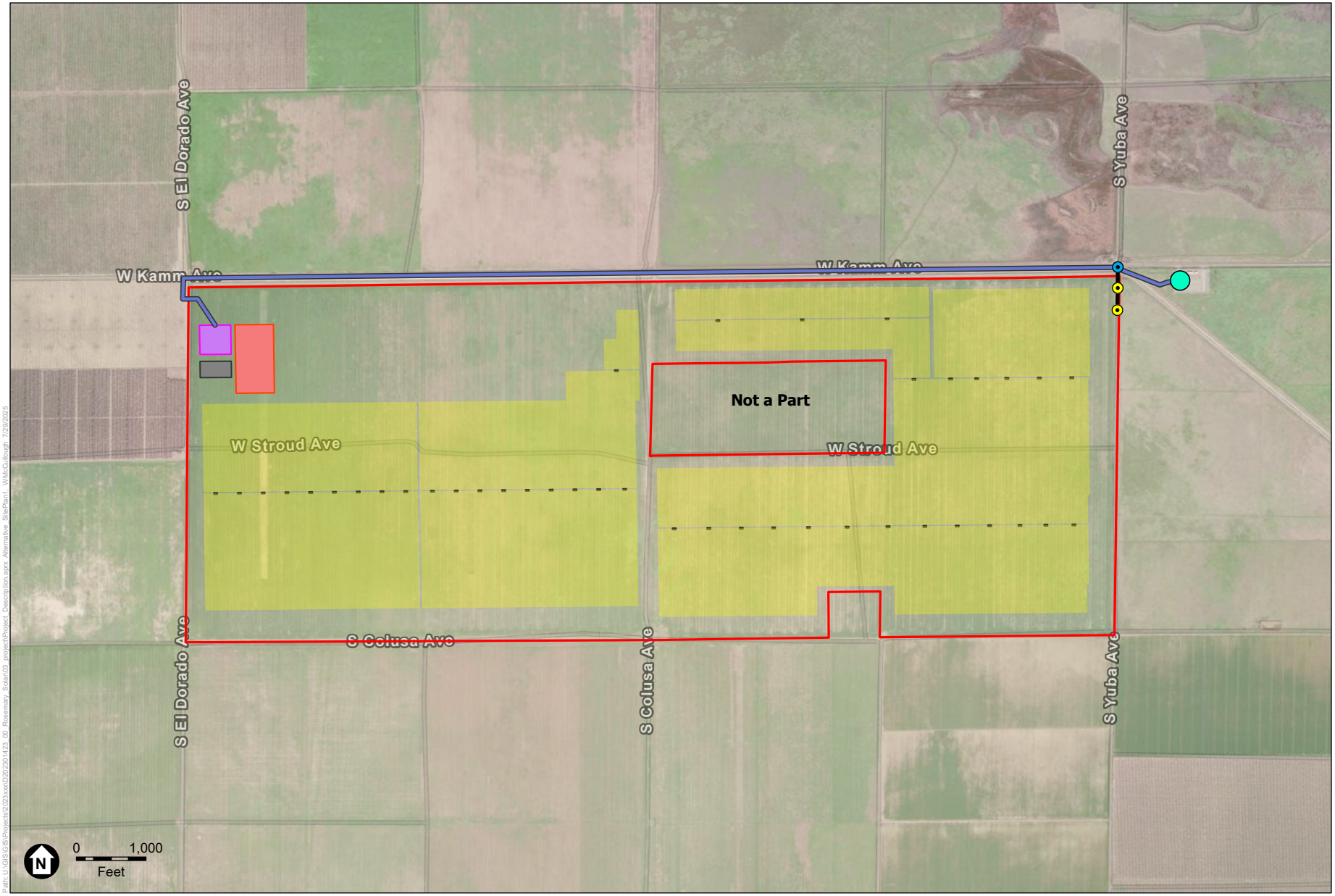
ESA



SOURCE: ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 2-5
Rosemary Shared Facilities



SOURCE: ESA, 2025

- Battery Energy Storage System (BESS)
- Site Substation
- Operations and Maintenance Facilities and Parking
- Optional Gen-Tie
- Existing PG&E 70 kV Transmission Line
- Photovoltaic Array
- Existing Crescent Switching Station
- Pole to be Replaced
- Pole Top Work
- Optional Project Boundary

Rosemary Solar and Energy Storage System Complex

Figure 2-6
Optional Project Site Plan

2.5.1.2 Direct Current Collection System and Electrical Equipment Pads

Electricity produced by each PV module row would be collected by a DC collector system and delivered through conductors to electrical equipment pads with inverters and transformers. The inverters would convert the DC power to three-phase AC and deliver it to adjacent medium-voltage transformers, where the power would be stepped up in voltage from the output of the solar modules (below 1,500 volts) to 34.5 kV. Each electrical equipment pad would have a concrete or steel pile foundation and would support encased units of inverters and transformers. Up to 37 electrical equipment pads, each approximately 20 feet by 8 feet, would be spaced across the PV facility.

2.5.1.3 Medium-Voltage AC Collector System

Electricity exiting the electrical equipment pads would be transported by a medium-voltage (34.5 kV AC) collector system and delivered through up to 5-feet-deep underground conductors or above ground conductors to an on-site substation (see Section 2.5.3, *Rosemary Shared Facilities*, for details about the on-site substation). Although most of the AC collector system is expected to be installed underground, an aboveground option (if selected) would consist of up to 20 wooden distribution line poles, each 35–55 feet tall. The proposed medium-voltage AC collection system would be in the Rosemary 1, 2, and 3 and Rosemary Shared Facilities areas.

2.5.2 Battery Energy Storage System

The Rosemary Project would include an ESS with a total storage capacity of up to 140 MW, fed by the medium-voltage (34.5 kV) collector system. Of the total storage capacity, Rosemary 1 would account for approximately 70 MW and Rosemary 2 and Rosemary 3 would account for 35 MW each. As shown in Figure 2-2, *Rosemary 1*, the ESS would occupy approximately 15 acres in the northeast part of the Rosemary Project site, adjacent to the substation.

The ESS would consist of modular and scalable battery packs and battery control systems that conform to U.S. national and State safety standards. The ESS modules could use any of a variety of commercially available battery technologies (lithium ion, sodium sulfur, sodium hydride, or nickel hydride) and would be enclosed by modular metal structures (containers). Container dimensions are assumed to be approximately 24 feet, 6 inches long, 6 feet wide, and 8 feet, 6 inches tall. In accordance with relevant safety standards, the containers would be equipped with temperature control (heating, ventilating, and air conditioning [HVAC]) equipment, appropriate fire safety systems, and one or more emergency backup generators to power the HVAC and safety system in the event of primary power loss. The ESS would also include electrical equipment pads with inverters and transformers, each measuring approximately 40 feet by 9 feet. Final dimensions, configurations, numbers, and ESS technologies may vary depending on the application, supplier, configuration chosen, and County building standards. Regardless, final design specifications are expected to fall within the assumed parameters described herein.

2.5.3 Rosemary Shared Facilities

2.5.3.1 On-Site Project Substation

The Rosemary Project would include a new approximately 3-acre on-site substation fed by the medium-voltage (34.5 kV) collector system directly from the PV arrays or from the ESS. The substation would consist of a new main power transformer that would increase the voltage from 34.5 kV to 70 kV.

In addition, the Rosemary Project substation would include circuit breakers (five to six breakers are assumed for a project of this size), a 70 kV breaker and switch, bus work (rigid conductors), and capacitor banks/reactors, as required. The maximum height for this equipment would be 30 feet. The substation may also include an up to 130-foot microwave tower. Support structures and riser equipment would be up to 65 feet tall to match the height of the gen-tie line. The substation would also include a control building, which would be a metal-clad building measuring approximately 12 feet by 40 feet (480 square feet). The building would be up to 25 feet tall and painted in a neutral color, such as beige or gray. The transformer type would be non–polychlorinated biphenyl (non-PCB) oil filled. The location of the proposed on-site substation is shown in Figure 2-5, *Rosemary Shared Facilities*. As shown in Figure 2-6, the substation would be located in one of two locations on the Rosemary Project Site.

2.5.3.2 Gen-Tie Line and Interconnection

As part of the Rosemary Project, the Applicant would construct, operate, and maintain a new 70 kV overhead and/or underground gen-tie line from the on-site substation to PG&E's existing Crescent Switching Station, where the Rosemary Project would interconnect to the grid. This gen-tie line would support fiber optic communication cables. Four different options for the gen-tie line route are being considered, all of which would connect to the switching station. Three of the options would be approximately 800 linear feet in length and would extend east from the proposed Rosemary Project substation to the Crescent Switching Station. The fourth option would extend eastward approximately 2 linear miles along the northern Rosemary Project site boundary from the western site boundary to the Crescent Switching Station. Only one of the four gen-tie line options would be selected and constructed. The four route options are shown in Figure 2-5, *Rosemary Shared Facilities*. If the optional Project site plan shown on Figure 2-6 is constructed, the fourth gen-tie option would begin from the northwesternmost corner of the Project site and extend east approximately 2 linear miles to the Crescent Switching Station. If constructed as an overhead line, the gen-tie line would begin from riser equipment in the on-site substation area, and the power would be delivered via single-circuit conductors on approximately 65-foot-tall power poles to the Crescent Switching Station. The poles would be spaced approximately 200–500 feet apart, depending on terrain, alignment, and existing infrastructure (e.g., turns would require more poles). Alternatively, all or portions of the gen-tie line may be installed underground to avoid conflicts with existing electrical infrastructure. Undergrounding would be accomplished through either direct trenching and burying or underground directional boring, or a combination of both methods. Underground lines would likely be installed at depths of 3–5 feet, if trenched, and would not exceed depths of 15 feet. The final gen-tie route and the associated redundant communication line would be determined at the detailed engineering stage.

PG&E would likely construct, operate and maintain the portion of the Rosemary Project's gen-tie line beginning at the Rosemary point of change of ownership (POCO) and terminating at PG&E's existing 70 kV Crescent Switching Station. This is further described in Section 2.6 *Description of the PG&E Project*.

PG&E may upgrade the Crescent Switching Station to support interconnection of the proposed gen-tie line and telecommunications line(s), including installation of a new circuit breaker and additional switches, and installation of gen-tie line terminal equipment and the termination of the Rosemary Project's fiber optic line and/or wireless communication. PG&E's Rosemary Project interconnection

upgrades would occur within the existing boundary of the switching station in areas that have been previously disturbed and/or that are occupied by existing electrical facilities.

2.5.3.3 Operation and Maintenance Facilities

The Rosemary Shared Facilities would include an approximately 1.5-acre O&M area in the northeast part of the Rosemary Project site, with an office and an adjacent warehouse that would be used for storage and maintenance work. The O&M office would be a modular office complex–style building measuring approximately 30 feet by 70 feet (2,100 square feet). The O&M warehouse would be a metal-clad pole barn style building measuring approximately 40 feet by 75 feet (3,000 square feet). Both buildings would be up to 25 feet tall and would be painted in a neutral color, such as beige or gray. The two O&M structures would be located approximately 20–50 feet apart. The O&M area would include up to 10 parking spaces. The O&M office building would include offices, a kitchen, restroom, electrical and communications utilities, and a septic tank and dispersal field that would be designed following the guidance in the Fresno County Local Area Management Program (Fresno County 2019). One or more aboveground water tanks (with a total capacity of up to approximately 50,000 gallons) would also be installed near the O&M building to serve the office's water requirements and provide fire suppression capabilities. Water lines would be needed to connect the proposed stand-alone tanks and septic to the O&M facilities; no connection to a public water system is proposed. The O&M facility would be located where shown in Figure 2-5, *Rosemary Shared Facilities*.

2.5.3.4 Control System and Telecommunications

The Rosemary Shared Facilities would include an on-site Supervisory Control and Data Acquisition (SCADA) system to allow for remote monitoring and control of inverters and other critical Project components. The SCADA system would monitor power output and availability and run equipment diagnostics on the Rosemary Project. Access to the SCADA system would be accomplished with wireless and/or hard-wired connections to locally available commercial service providers (such as a local exchange carrier). The SCADA system would be located within the Rosemary Project site.

To meet PG&E's requirement for redundant communication lines, one of two options would be implemented in addition to the primary fiber optic cables within the main gen-tie line. For Gen-Tie Options 1, 2, and 3, where trenching a redundant fiber optic cable along the main gen-tie line may not be feasible due to site constraints or other factors, redundancy could be achieved by either: (a) installing a separate overhead fiber optic line strung on new wooden poles, running parallel to the main gen-tie line alignment (typically offset on either side of the gen-tie by approximately 10 to 40 feet) and supporting only the redundant fiber optic cables (the wooden poles for this separate fiber optic line would be of a height necessary to maintain appropriate ground clearance but would not exceed the height nor depth of the gen-tie poles); or (b) utilizing a microwave communication system. A microwave system would involve the microwave transmission tower at the on-site substation establishing a wireless link to PG&Es Crescent Switching Station. For Gen-Tie Option 4, any required redundant fiber optic cables are anticipated to be co-located or trenched within the same alignment as the main gen-tie line, making a separate parallel overhead line or a microwave system less likely for this specific option, though a microwave system could still be considered if site conditions warrant this. If a microwave tower is needed, then it would have a maximum height of 130 feet and a maximum depth of concrete foundation

to be 20 feet below ground surface. Only one method of providing the required redundant communication line (e.g., separate overhead fiber or microwave) would be selected and constructed.

2.5.3.5 Meteorological Station

The Rosemary Project would include one or more on-site solar meteorological stations (weather stations), which would consist of various sensors to measure solar energy (irradiance), air temperature, wind temperature and direction, humidity, and precipitation. Power for the meteorological stations would be provided by an auxiliary power system or a dedicated PV module with a small battery. Data from each sensor would be collected by the station's data logger and transmitted to the SCADA system for monitoring and reporting purposes. The meteorological stations would be mounted on structures that would be expandable from 6 feet to 15 feet in height.

2.5.3.6 Site Access and Internal Access Roads

Primary access to the Rosemary Project site would be via a main gate on the northeast part of the site on South Yuba Avenue, approximately 150 feet south of West Kamm Avenue; and/or off West Kamm Avenue via a new driveway, approximately 300 feet west of South El Dorado Avenue. Secondary access roads would be provided for Rosemary 1, 2, and 3. A secondary access gate would be installed on South Colusa Avenue and/or South El Dorado Avenue. All gates would be locked, and signs would be posted to inform of the presence of high-voltage equipment. If required by local first responders and emergency services authorities, lockboxes with keys would be placed next to each gate to allow access for emergency vehicles. The primary access road would have a finished width of approximately 20–25 feet.

The Rosemary Project may include culvert testing and improvements for the culvert off South Yuba Avenue and West Kamm Avenue. Load testing would be performed on the existing culvert to determine whether improvements may be required to provide for construction and emergency access to the site. Improvements may include removal and replacement of the existing culvert to improve functionality. If culvert testing and/or improvements were deemed necessary, final designs and methods would be determined by a qualified engineer in coordination with the U.S. Bureau of Reclamation.

The Rosemary Project would include internal access roads to allow for ingress to, egress from, and movement within the Project site to facilitate installation, maintenance, and cleaning of the solar modules. These roads would include an inner fence perimeter road in each fenced PV facility area; the primary access road from the main gate to the O&M area, ESS area, and substation; and roads to the solar arrays and electrical equipment pads. The perimeter roads would function as fire buffers, accommodate Rosemary Project O&M activities, and facilitate on-site circulation for emergency vehicles. The perimeter access would be constructed in conformance with the California Department of Transportation and Fresno County design requirements for fire safety. Internal access roads connecting Rosemary Project site entrances to the O&M area, the ESS area, and substation, as well as the perimeter road, would be 20–25 feet wide.

Both the primary access road and perimeter roads would be compacted native earth. If required, the main access roads would be graveled using approximately 8–12 inches of aggregate base on a compacted subgrade. The Rosemary Project would also include unpaved access roads between the blocks of module rows (i.e., at the ends of rows), which would be up to 16–25 feet wide and used to access the solar arrays, electrical equipment pads, and collector systems. In addition, the PV module rows would be spaced about

15–20 feet apart, creating access routes that would allow vehicle access to individual PV module locations. Final module row spacing would depend on final module design.

Primary and internal access roads would be installed during construction and would remain in place during operation. Precise road alignments would depend on the final placement of the module rows, topography, and any other specific details to be incorporated into the final design.

2.5.4 Site Security and Lighting

Each of the four facilities within the Rosemary Project site would be enclosed within a chain-link security fence that would be up to 8 feet tall, as measured from finished grade. Fence posts would be drilled and either grouted or driven pneumatically, depending on site-specific soil characteristics. Vehicle access gates would be installed as necessary, with the gates to remain locked when not in use. Additionally, the Rosemary Project may include security measures such as barbed wire, controlled access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespassing and unauthorized activities that could interfere with project operation. Controlled access gates would be maintained at the main entrance to the Rosemary Project site. Access would be provided to off-site emergency response teams in the event of an after-hours emergency. Enclosure gates would be operated manually with a key provided in an identified key box location. Once the Rosemary Project is operational, the plant manager and maintenance staff would perform visual site inspections and monitor the site to deter theft and vandalism during daylight hours. During all other times, off-site security personnel would monitor the site remotely and provide incident response 24 hours per day, 7 days a week.

The Rosemary Project would include external safety lighting for both normal and emergency conditions at the main project gate, the project substation, the ESS area, and the O&M area. Lighting would be designed to provide the minimum illumination needed to achieve safety and security. The lights would be downward facing, motion or manually activated, and shielded to focus illumination in the immediate area. Unless there were a known risk to the Rosemary Project site, lighting would be placed into motion detection mode at night to limit illumination at night when not required.

2.5.5 Water, Waste, and Hazards

2.5.5.1 Water

The water needed for construction of the Rosemary Project would be provided by Westlands Water District (WWD). WWD has agreed to supply a fixed amount of water for the project's use. Non-potable water would be supplied through WWD's groundwater wells near the Rosemary Project site. A maximum of 325 acre-feet (290,141 gallons per day) of water would be needed during the approximately 18-month construction period for dust control, soil compaction, and other similar activities. Drinking water provided during construction would be from bottled water sourced from a nearby vendor.

WWD would also provide the water needed for Rosemary Project O&M activities. Water use during operation would be approximately 6.3 acre-feet per year (2,046,000 gallons per year; 5,605 gallons per day). Of this total, approximately 120,000 gallons of water per year would be required for herbicide applications across the Rosemary Project site; approximately 650,000 gallons would be required for each of two PV module cleanings (up to 1,950,000 gallons annually); and approximately 36,000 gallons per year of water would be used by staff in the O&M building for sinks and toilets. Water for fire suppression

and response would be made available via one or more aboveground water storage tanks, with a total capacity of up to approximately 50,000 gallons. Non-potable water would be supplied through WWD's groundwater wells. Drinking water provided would be bottled water sourced from a nearby vendor. See **Appendix J**, *Water Supply Assessment*, for additional details about water supply to satisfy construction and O&M needs.

Water needs for Rosemary Project decommissioning and site restoration are expected to be comparable to water demand during construction.

2.5.5.2 Solid and Nonhazardous Waste

Solid waste generated during construction would include debris such as concrete, wood, brick, glass, plastics, and scrap metal. To the maximum extent feasible, soils from drilling, trenching, or excavation would be screened and separated for use as backfill at the site of origin. A construction waste recycling program would be implemented pursuant to the California Green Building Standards Code. All solid construction waste would be disposed of or recycled by qualified service providers. To accommodate the direction of construction materials to proper end-point destinations, contractors and workers would be trained on waste sorting, appropriate recycling storage areas, and measures to reduce landfill waste. Sanitary waste would be contained in portable facilities, collected at least weekly, and disposed of at an off-site disposal or treatment facility. An on-site septic or sewage system would not be constructed to treat sanitary waste during construction.

During O&M activities, the Rosemary Project would generate solid waste expected to consist of paper, wood, plastic, cardboard, deactivated equipment and parts, defective or broken electrical materials, empty nonhazardous containers, and other miscellaneous solid waste. During normal operation, PV panels, ESS batteries, and inverters would produce no waste. The Rosemary Project operator would remove solid waste regularly for disposal in local landfills in accordance with applicable regulations.

At the end of the Rosemary Project's life, remaining project components would be disposed of or recycled by qualified service providers in accordance with applicable requirements and the provisions of County-approved reclamation plans. See **Appendix B1**, *Draft Reclamation Plans*, for details.

2.5.5.3 Hazardous Materials

Typical hazardous materials could include herbicides, fuel, paints, cleaners, solvents, spent oil, hydraulic fluid, and household batteries. Herbicide use and other pest control activities would occur in accordance with a County-approved pest management plan, a draft of which is provided in **Appendix B2**, *Pest Management Plan*. The transformers proposed to be located at the substation would use nonhazardous mineral oil for cooling purposes. Hazardous materials needed to construct, operate and maintain, and eventually decommission the Rosemary Project would be stored in appropriate containers in secure areas with secondary containment. Hazardous waste generated by the project would be removed from the Rosemary Project site by a licensed hazardous waste recycling or disposal firm. Disposal of all hazardous materials would occur in accordance with applicable regulations and as described in a project-specific Hazardous Materials Business Plan to be prepared consistent with the Hazardous Materials Release Response Plans and Inventory Act of 1985 (Health and Safety Code Section 25500 et seq.). On-site staff would be trained annually on safe handling, storage, and disposal of hazardous materials.

2.5.6 Rosemary Project Construction

Construction of the Rosemary Project would require three general categories of construction tasks:

- Civil work, including site preparation and grading/other earthwork.
- Facility construction, including concrete foundations; structural steel work, including PV posts, the ESS, and the substation; electrical/module racking and instrumentation work; and installation of the collector system, gen-tie line, and redundant telecommunications line (or microwave tower).
- Testing and commissioning, including the testing and calibration of installed equipment.

Earthmoving activities would be limited to the construction of access roads, O&M structures, inverters, the ESS, gen-tie line, redundant telecommunications line (or microwave tower), and any stormwater protection or storage (detention) facilities (if required). Final grading may include revegetation with low-lying grass or application of earth-binding materials to disturbed areas. The hours when construction would occur are anticipated to be consistent with permitted construction hours listed in the Fresno County Code, i.e., between 6:00 a.m. and 9:00 p.m. Monday through Friday and between 7:00 a.m. and 5:00 p.m. Saturday and Sunday. On infrequent occasions, construction activities may be scheduled outside of these hours to complete construction activities such as continuous concrete pours; to accommodate the schedule for system outages; or to address emergencies.

2.5.6.1 Civil Work

Site preparation activities would consist of the activities needed to prepare the Rosemary Project site for installation of facility infrastructure, including site surveying, vegetation clearing, and grading. The site would be secured with the installation of chain-link fencing and gates around the Project site perimeter and the proposed staging and laydown area. No pipelines would require removal as part of the site preparation and construction activities. Coordination with Underground Service Alert (USA North 811) would occur before any digging or ground-disturbing construction activities.

Grading and other earthwork would be required to prepare staging and other work areas. Staging and temporary laydown would occur primarily within the footprint of the solar array areas or on-site substation site. Although not anticipated for Rosemary Project construction, any work areas that would be temporarily disturbed by construction activities, that would not also be permanently impacted by the development of the Rosemary Project, would be restored as close to preconstruction conditions as possible. Preliminary reclamation plans for Rosemary 1, 2, and 3 and the Rosemary Shared Facilities are provided in **Appendix B1**, *Draft Reclamation Plans*. Temporary construction trailers would be provided on-site. In addition, sanitary waste would be managed using portable toilets located at a reasonably accessible on-site location.

2.5.6.2 Facility Construction

Panels and Trackers

It is anticipated that the proposed PV panels would be manufactured off-site and shipped to the Rosemary Project site ready for installation. If necessary, concrete pads for the drive motors or other equipment would be poured using concrete provided by one or more off-site local batch plants located within

50 miles of the Rosemary Project site (such as the South Fresno Concrete Plant and Fresno Ready Mix Plant), and electrical equipment for the array would be set in place.

The trackers and PV modules would be supported by steel support posts made of galvanized steel. Posts are usually driven with hydraulic or impact/vibratory equipment up to 15 feet below ground surface. Approximately 4–5 feet of the posts would remain above grade. Soil disturbance would be limited to the pile location and temporary disturbance by the hydraulic ram during construction. No blasting or rock breaking is anticipated to occur during construction of the Rosemary Project. Small truck-mounted cranes or all-terrain forklifts would move materials through the Project site and support tracker construction. Array construction would include small all-terrain vehicles to transport materials and workers on access roads and array aisles.

The process and procedures for installation of the racking system and assembly of modules would be in accordance with final engineering design details but generally would include the following tasks:

- Install support piles using a hydraulic/vibratory technique for the racking system.
- Install tracking system components.
- Install a galvanized metal racking system for solar PV modules.
- Mount PV solar modules to the racking system.
- Install the PV solar module strings' wire harnesses and associated hardware.
- Install the inverters and equipment control enclosures.
- Install the DC collector wires from string locations to inverter locations.
- Install cable from the inverters to the Project substation.
- Construct the substation and O&M facilities.
- Construct the PG&E transmission system interconnection facilities.[4]
- Install and interconnect the communications system.
- Connect to the local fiber optic and/or telephone network.
- Install meteorological stations.
- Complete final installation of site roadways after placement of all necessary underground components.

Rosemary Project Substation

Construction of the on-site substation would include installation of substructures and electrical equipment. The area would initially be cleared and graded and fenced with security fencing. Underground Service Alert would be contacted to identify locations of buried utilities. The Rosemary Project substation would be constructed following conventional grading using standard construction equipment. Grading is expected to be minimal. The substation equipment would be mounted on either concrete foundation pads

[4] PG&E would construct upgrades to interconnect Rosemary Project facilities. Activities would include installing terminal equipment for the gen-tie line and communications fiber optic line and one circuit breaker at the Crescent Switching Station. PG&E construction of the electrical connections to the Project's infrastructure as described herein would be subject to the authority of the CPUC. Aspects of the project to be constructed by Rosemary Solar, LLC (such as the gen-tie line, on-site substation, and collector lines) would not be subject to the CPUC's authority and oversight.

or piers, depending on local soil conditions. The substation area would be graveled for grounding and employee safety purposes.

Battery Energy Storage Facility

After clearing and grading of the ESS site, underground electrical conduit and the grounding grid would be installed and concrete foundations poured. Battery containers with pre-installed racking and battery modules would be installed on top of the foundations. The HVAC equipment and fire safety systems may be pre-installed in the battery containers off-site or installed on-site during construction. Wiring would be connected with the equipment and in enclosures. Inverters and transformers would be installed within the containers or installed externally on concrete foundations. The inverters and transformers would be connected electrically to complete the system.

Construction Equipment

Types and quantities of construction equipment expected to be needed for each of the three general categories of construction are identified in **Table 2-2**, *Rosemary Project Construction Equipment*.

TABLE 2-2
ROSEMARY PROJECT CONSTRUCTION EQUIPMENT

Phase/Crew	Equipment Type	Quantity	Estimated Workdays[a]		Duration of Use (hours/day)
			Concurrent	Sequential	
Civil Work	Tractor/Loader/Backhoes	4	169	197	8/6[b]
	Excavator	5			8
	Graders	4			8
Site Preparation	Rubber-Tired Dozers	1	15	15	7
	Tractor/Loader/Backhoes	1			6
	Graders	1			8
Facility Construction	Cranes	1	219	299	8
	Tractor/Loader/Backhoes	2			8
	Rollers	3			8
Building Construction	Forklifts	2	50	50	6
	Cranes	1			4
	Tractor/Loader/Backhoes	2			8
Testing	Other Construction Equipment	8/4[c]	80	147	8
Paving	Pavers	1	10	10	7
	Rollers	1			7
	Cement and Mortar Mixers	4			6
Coating	Air Compressors	1	10	10	6

NOTES:

a. As described in Section 2.5.6.3, *Construction Schedule*, construction of the various Rosemary Project components could occur concurrently or sequentially. Therefore, estimated workdays are provided for both the concurrent and sequential construction scenarios.
b. For civil work, tractor/loader/backhoes would operate 8 hours per day under the concurrent construction scenario or 6 hours per day under the sequential construction scenario.
c. For testing, eight pieces of equipment would be required under the concurrent construction scenario or four pieces of equipment would be required under the sequential construction scenario.

SOURCE: Data compiled by Environmental Science Associates in 2024 (see Appendix E)

2.5.6.3 Construction Schedule

Construction of Rosemary 1, 2, and 3 and the Rosemary Shared Facilities could occur concurrently or sequentially, with the total construction duration to be approximately 18 months. Should construction be phased, construction of the Rosemary Shared Facilities would occur concurrently with construction of the first PV solar facility. If facilities were to be constructed separately, construction of Rosemary 1 and the Rosemary Shared Facilities would last approximately 12 months. Construction of Rosemary 2 and 3 would occur concurrently and would last approximately 6 months.

Construction would generally occur between 6 a.m. and 9 p.m. Monday through Friday and between 7 a.m. and 5 p.m. Saturday and Sunday. Construction activities outside of these hours may be necessary on infrequent occasions to make up schedule deficiencies or to complete critical construction activities in accordance with applicable County standards. Construction activities would take place 6 days per week for 10 hours per day. For example, materials and supplies would be delivered to the Rosemary Project site by truck. Truck deliveries would occur primarily during daylight hours; however, some offloading of materials may occur on weekends and during evening hours.

Some activities may continue 24 hours per day, 7 days per week. Specifically, low-level noise activities could occur between 9 p.m. and 6 a.m. Nighttime activities would be limited but could include such activities as refueling equipment, staging material for the following day's construction activities, working within enclosed structures, continuous concrete pours, conducting quality assurance and control, and commissioning. Mobile light towers would be used as needed for nighttime construction activities.

2.5.6.4 Construction Workforce

Consistent with the County's Solar Facility Guidelines (Fresno County 2017), the Applicant would make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local construction workforce. For purposes of this EIR, *local* is assumed to mean from within the Fresno and Hanford–Corcoran metropolitan statistical areas. This area includes Fresno (approximately 32 miles from the Rosemary Project site), Madera, Hanford, and other areas within 50 miles of the site (City Population 2024).

Peak workforce demand would occur during facility construction if Rosemary 1, 2, 3 and the Rosemary Shared Facilities were constructed concurrently. Should this occur, the peak daily workforce would be up to approximately 204 workers, and maximum average daily trips would total 260 one-way trips, consisting of worker truck trips, vendor (medium-duty truck) trips, and off-site haul (heavy-duty truck) trips. On average, fewer workers than this would be present on-site, resulting in fewer average daily trips. Construction workers generally would work 8- to 10-hour days, Monday through Friday. Although weekend and overtime construction is not anticipated, it may be needed occasionally to meet Project milestones.

2.5.7 Rosemary Project Operation and Maintenance

Once constructed, the Rosemary Project would operate 7 days per week, 365 days per year. During daylight hours, the project would supply generated electricity to the grid while also charging the ESS. The ESS could charge from the solar facility or the electrical grid and could deliver stored electricity to the grid for up to 8 hours. Although stored energy could be delivered to the grid during any hour of the day, it

is most common for ESS facilities to discharge in the evening hours between 4 p.m. and 9 p.m., when demand for electricity is high.

Rosemary Project O&M personnel would likely be on-site Monday through Friday from 7 a.m. to 4 p.m. and as needed after hours and on weekends. The project would employ approximately eight full-time employees for facility operation: four for Rosemary 1 and two each for Rosemary 2 and 3. Additionally, up to 16 part-time employees would be needed for vegetation management, panel washing, contract maintenance, and other similar tasks. The average number of O&M workers at the Rosemary Project site would be 10 people per day, with a peak number of 16 people per day. Consistent with assumptions about the construction personnel labor pool, O&M employees are expected to be drawn from the local labor force. Delivery trucks, pickup trucks, or personal vehicles would make an average of 10 daily two-way trips to the Project site. The Rosemary Project would provide 10 parking spaces on-site in the O&M area.

O&M activities would be managed from the on-site O&M area. Maintenance workers would use gasoline- or diesel-fueled vehicles. Maintenance activities would include as-needed solar panel repairs; panel washing two to three times per year; maintenance of transformers, inverters, and other electrical equipment; and road and fence repairs. For the energy storage system, routine on-site maintenance would include augmentation of batteries, electrical repairs, component repairs, the replacement of inverter modules and filters, and vegetation control. Preventative maintenance would include items such as visual checks, general housekeeping/cleaning, electrical checks, HVAC system maintenance, consumable parts replacements (such as filters and sensors), and periodic testing of equipment. It is anticipated that one annual major maintenance inspection of the energy storage system would occur. Equipment repairs would be made in the early morning or evening when the facility would be producing the least energy. For additional details, see **Appendix B2**, *Draft Pest Management Plan*, and **Appendix B3**, *Operational Statement*.

2.5.8 Rosemary Project Decommissioning and Site Reclamation

The anticipated operational term (useful life) of each of the facilities comprising the Rosemary Project is 40 years. Although the Applicant or Project proponent could apply to the County for any authorizations needed for repowering, this EIR assumes that the Project facilities would be decommissioned and dismantled and the Project site restored to its pre-construction conditions in accordance with the provisions of the applicable County-approved reclamation plan. See **Appendix B1**, *Draft Reclamation Plans*, for details. Briefly, Rosemary 1, 2, 3, and Rosemary Shared Facilities components would be dismantled and removed from the site for recycling or disposal in compliance with federal, state, and local regulations, and the site would be restored to a condition suitable to support a return to pre-project agricultural use. Internal roadways would be de-compacted, leveled, and graded. All below-ground infrastructure including DC collector cables would be removed entirely.

Areas of the Rosemary Project site that were compacted during construction, O&M, and decommissioning would be tilled to restore the subgrade material to be similar to the depth and density of surrounding properties. Clean compactable subgrade material would be used to fill low areas. If needed, locally sourced topsoil would be used to attain a depth and density similar to that of the surrounding properties. This EIR assumes that such topsoil if needed, would be readily available. The site would be tilled to mix and loosen the topsoil. Compost could be spread over the site and worked into the topsoil, if deemed appropriate. An appropriate seed mixture of approved native and/or desirable plants would be broadcasted

or drilled across the site, followed by the application of weed-free mulch, if needed to stabilize the soil or retain moisture. Temporary erosion and sedimentation control best management practices would be implemented.

Decommissioning and restoration of the Rosemary Project site would take approximately 12 months. The workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction.

2.5.9 Rosemary Project Applicant-Proposed Measures

If the Rosemary Project is approved, then the Applicant would take the actions specified below to reduce the potential significance of anticipated environmental impacts of the Rosemary Project or in accordance with applicable state and local laws and regulations. These measures (whether specific design features or plans) are elements of the Rosemary Project. Where the analysis of individual resources relies on these design features or plans to reduce anticipated effects, the relevant section so notes. By contrast, mitigation measures are not elements of the Rosemary Project and are structured in accordance with the criteria in CEQA Guidelines Section 15370.

2.5.9.1 Minimization of Impacts on Neighboring Agricultural Operations

Consistent with the Fresno County Solar Facility Guidelines (Fresno County 2017), the Applicant proposes to maintain a minimum 50-foot buffer from the edges of the Rosemary Project site boundaries to the closest structural improvements or equipment as a setback from existing neighboring agricultural operations. Proposed weed and other pest control activities described in **Appendix B2**, *Draft Pest Management Plan*, and recordation of an acknowledgement of the County's Right to Farm Ordinance prior to issuance of permits are proposed to support the effectiveness of efforts to minimize impacts to existing agricultural operations.

2.5.9.2 Erosion and Sediment Control Measures

In conformance with industry standards, a registered civil engineer will prepare erosion control designs for the Rosemary Project. Because the proposed solar and energy storage development would result in disturbance of an area greater than 1 acre, the Rosemary Project will be required to enroll (under the state Construction General Permit) in the National Pollutant Discharge Elimination System program. Sediment and erosion controls will be installed in accordance with an approved storm water pollution prevention plan. Erosion prevention measures will include the separation of topsoil during construction and stockpiling and stabilizing it separately from subsoil. When construction is complete, the stripped subsoil and topsoil will be replaced as required. Other erosion and sediment control measures will include watering for dust control and implementation of a revegetation plan (discussed further below).

2.5.9.3 Vegetation Management Plan

A vegetation specialist will develop a vegetation management plan consistent with the description of the vegetation management plan provided in **Appendix F1**, *Biological Resources Technical Report*, to address temporary disturbance from Rosemary Project construction activities and to inform long-term Rosemary Project site vegetation and habitat management during operations. The plan will include details on 1) soil testing; 2) site preparation; 3) the seed mixture to be used onsite, including native and desirable

nonnative low-stature species, and application methods; 4) areas to be reseeded; 5) weed identification and control measures; 6) vegetation maintenance procedures; 7) implementation timing; 8) vegetation monitoring protocols; 9) adaptive management guidelines; and 10) a clear prohibition of the use of toxic rodenticides. During operation, objectives will be to establish and maintain a ground cover of low-stature (e.g., less than 18 inches tall) native and desirable nonnative grasses and other plants that are consistent with the establishment of habitat for burrowing owls and other wildlife species. The vegetation of the Rosemary Project site will be monitored with remedial measures implemented as necessary to achieve the vegetation cover and habitat management goals of the plan.

2.5.9.4 Dust Control and Valley Fever Management Plan

Rosemary Project activities will 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 Rosemary Project site because Coccidioidomycosis, more commonly known as *Valley Fever*, is highly endemic[5] 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 earthmoving 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 implement the following measures:

- Prior to the initiation of ground disturbing activities, a Valley Fever management plan shall be provided to the County and the San Joaquin Valley Air Pollution Control District for review and approval. The plan will include a program to limit the potential for exposure to *C. immitis* from construction activities and to identify appropriate worker training, dust management, and safety procedures that shall be implemented. In addition to awareness and recognition training, these measures include performing job hazard assessments (JHAs) for all job classifications employed on-site during construction. These JHAs shall identify the potential for exposure as well as the appropriate precautions and controls to minimize exposure.
- During construction, the Rosemary Project Applicant or Project owner will implement an average of twice daily watering of roads and active disturbance areas and will limit vehicle speeds on unpaved roads to 20 miles per hour (mph).
- During operation, vehicle speeds will be limited on unpaved roads to 20 mph.

2.5.9.5 Wildlife-Friendly Design Features

The design of new overhead transmission and communications lines and structures will follow the most recent Avian Power Line Interaction Committee guidance to reduce the potential for avian injury and mortality from collisions and electrocution. The proposed use primarily of motion-activated security lighting (rather than lighting that will remain on from dusk to dawn) will reduce adverse impacts to nocturnal species, potentially including foraging, sheltering, mating and reproducing, communicating, and migrating behaviors.

[5] 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.

2.5.9.6 Emergency Action Plan

The Applicant recognizes that ESS facilities, unless properly constructed, maintained, and operated, can create hazards for firefighters and emergency responders with the possibility of thermal events. As such, the Applicant will only utilize equipment that has undergone extensive failure testing and proposes to construct and operate the ESS in accordance with test results, all applicable statutes, regulations, and other requirements, including developing an emergency action plan, in advance of battery containers arrive to site, to train local emergency response personnel during development and operation of the facility. The plan will be completed in accordance with existing state regulations (Health and Safety Code Section 25504[b]; California Code of Regulations Title 19, Section 5030.9; Public Utilities Code Section 761.3) and the failure testing will be performed per UL9540A and Large Scale Fire Testing as described in NFPA 855. The contents of the emergency action plan will comply with existing state regulations, will be developed in consultation with the fire department and will include defined roles and responsibilities. The Applicant will offer first responder training prior to battery containers arrive to site, once equipment is installed and fully operational, and annual refresher training.

2.6 Description of the PG&E Project

PG&E may reconductor the existing Helm–Crescent 70 kV electric transmission line to enable full conductor rating of approximately 1,400 amperes to facilitate interconnection of the Rosemary Project and to enhance the safety and reliability of electrical service to its customers (CAISO 2024). PG&E's Helm–Crescent reconductoring would occur over approximately 5 linear miles and generally would involve the replacement or improvement of existing poles and the installation of new conductor wires where needed to improve reliability consistent with CPUC General Order 95, ground-to-conductor clearance requirements. Minor improvements (replacement or addition of new equipment, such as terminal equipment, circuit breakers, and poles) to the existing PG&E Helm Substation and/or Crescent Switching Station, within those existing facility boundaries, may also be necessary. Because PG&E would time the work to occur when the power could be diverted to another line, no service disruptions are anticipated.

Although PG&E's proposed Helm–Crescent reconductoring and infrastructure improvements would not be a direct result of the Rosemary Project, these improvements would facilitate Project interconnection and are therefore included in this project description and analyzed throughout this document. PG&E implements standard measures and other best management practices during construction and operation of projects in its service territory. Applicable measures would be implemented by PG&E during construction and operation of its improvements. Approval of the improvements would fall under the permitting jurisdiction of the CPUC.

2.6.1 Replacement Conductor

To replace the existing conductor, rollers would be installed at each conductor's attachment point to the structure. Ropes would then be installed between each structure and threaded through the rollers. Using pulling equipment located at each end of the section being pulled, the ropes would then pull the new conductor through the rollers. After the new conductor has been pulled into each structure in the pull section, it would then be sagged to the correct line tension and then would be transferred from the rollers to its permanent attachment point on the structure. See **Figure 2-7**, *Typical Construction Stringing Activity*, which illustrates how these activities interrelate.

To avoid potential safety concerns, a road closure or a rolling stop would be arranged before the start of conductor installation at any locations where lines cross over roads. Any road closures that must occur on private and county roads typically would not exceed a few minutes in duration and would be coordinated with the County or the landowner. Alternatively, guard structures may be installed at road crossings in lieu of road closures. These guard structures are typically structures installed on each side of the road with nets extending over the road, or aerial lift trucks with H-frame guards mounted on the booms.

Following installation of the new conductor, the existing conductor and structures would be removed and the new line would be energized. This task would be accomplished by line personnel in aerial bucket trucks who would access each structure, loosen the tension on the conductor, remove it from the structure attachment points, let it down to the ground, and reel it up with a truck-mounted puller onto empty reels, where it would be hauled off for salvage.

2.6.1 Substation Modifications

As part of the reconductoring effort, PG&E would modify existing infrastructure within the Helm Substation and the Crescent Switching Station. PG&E would also modify existing infrastructure within the Crescent Switching Station to accommodate the interconnection of the Rosemary Project. Modifications could include installing new or upgraded equipment consisting of circuit breakers and related foundations and concrete trenches, equipment cabinets, bus structures, conduits, pull boxes, IT and communications fiber, and concrete-encased conduit duct banks.

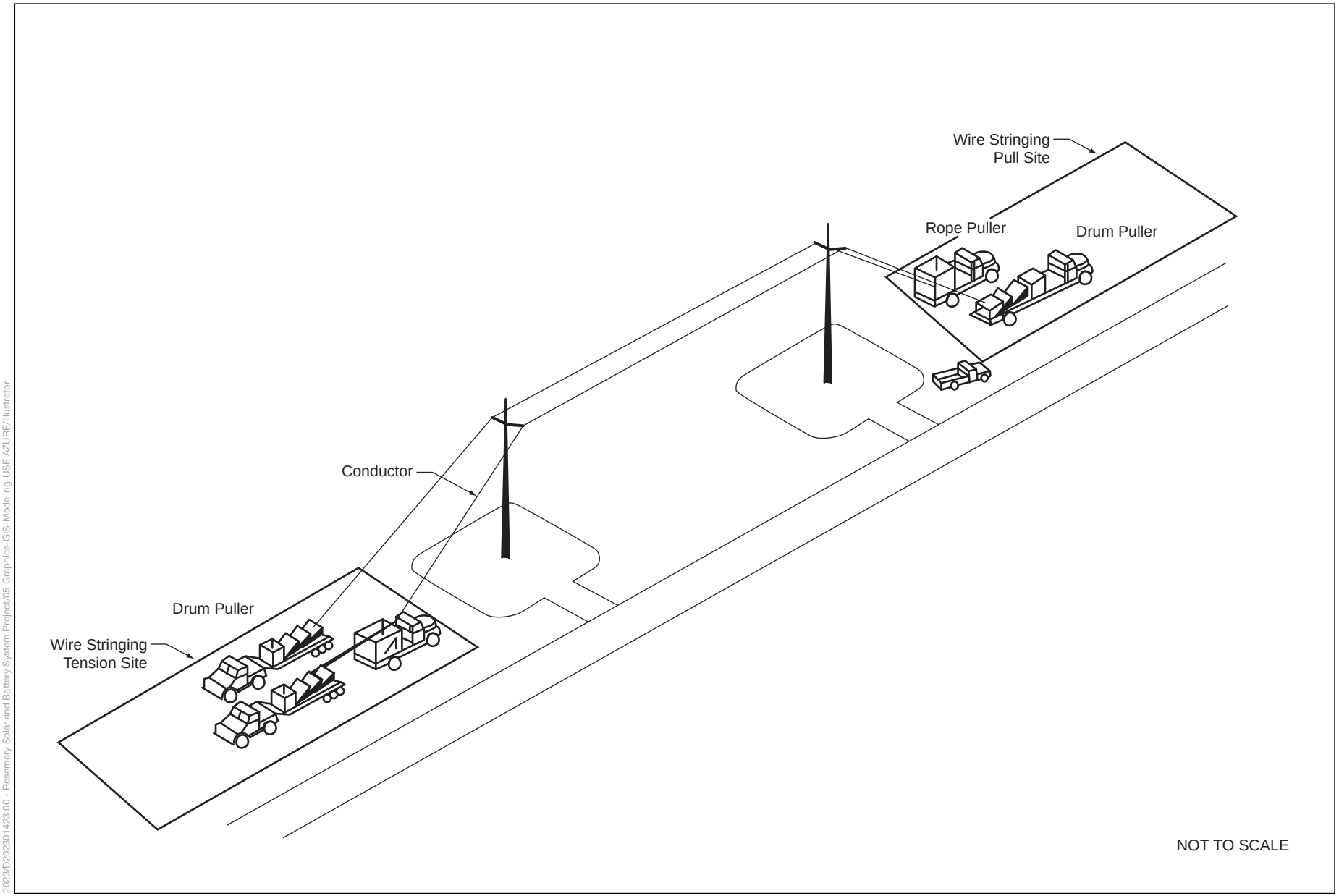
2.6.2 Replacement and Modified Structures

PG&E would assess each of the 78 existing poles and the existing 70 kV conductor and if necessary, would replace or upgrade existing structures and conductor wires in compliance with CPUC General Order 95 ground-to-conductor requirements. The existing poles are spaced approximately 100–600 feet apart. New structures, if necessary, would be either tubular steel, light-duty steel, or wood poles. TSPs and light-duty steel poles are typically constructed using galvanized steel and are either a dull gray or treated to be similar in color to weathered wood poles. Anchor and guy structures may be replaced or added to the pole structures as necessary to accommodate compliance with current PG&E and CPUC standards. It is anticipated that structures would be similar in height and location to the currently existing poles; however, the locations and heights may be adjusted as necessary based on PG&E and CPUC standards.

2.6.2.1 Work Areas

Removing existing structures and assembling and installing new poles would require ground disturbance for each work area at the following locations:

- 75-foot-square areas for TSPs.
- 50-foot-square area for structures that are not TSPs and are more than 90 feet long.
- 30-foot area for guy structures, wood poles less than 90 feet long, and removal of existing structures.
- 40-foot by 200-foot pull sites.
- Approximately 2 acres for a laydown area in a location that has not yet been determined, but which would be located near the PG&E Helm Substation or the Crescent Switchyard and/or the transmission line.



2023/D2023014230.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ESA

Rosemary Solar and Energy Storage System Complex

Figure 2-7
Typical Construction Stringing Activity

ESA

For purposes of the analysis, this EIR assumes that the laydown area would be located adjacent to an existing improved road and at least approximately 300 feet from the nearest sensitive receptor and 300 feet from a transportation corridor.

The proposed laydown area would be flat. Mowing or minor grubbing is the only site preparation expected to be necessary for most of the reconductoring work areas; however, some limited leveling and filling may occur as needed. Typical Class 2 rock may be placed temporarily, depending on the existing ground conditions of the area and the time of year (e.g., wet weather). The proposed laydown area may be fenced, and tree trimming and matting or plating of access routes may be required for vehicle access. Construction materials are expected to be delivered using line trucks and would be staged within work areas near existing structures.

2.6.2.2 Pull Sites

Pull sites and staging areas for pole replacement equipment and materials would be established at multiple locations throughout the PG&E Project area to facilitate the installation of new and removal of existing conductors. Such locations would be selected to avoid or minimize impacts on sensitive resources. The exact distances between structure sites would vary depending on the layout of the existing line and planning constraints. The locations and footprints of the sites would depend on conditions on the ground and may require adjustment just before construction. Site preparation is not expected to be necessary for most of the pull sites; however, some limited surface blading, grading, and filling may occur as needed to create a stable and level work area. Vegetation removal, crop removal, tree trimming, matting or plating of drainage crossings, and temporary placement of gravel may be required to establish safe and functional pull sites. Access routes to the proposed temporary staging area are generally well established, and improvements to these routes are expected to be minimal.

2.6.2.3 Equipment Storage and Laydown Area

The equipment storage and laydown area would have a temporary footprint of up to approximately 2 acres that may also be used as a staging area for storing equipment and materials. Temporary fencing may be required as a security protection measure. Access to the equipment storage and laydown area would be by existing roads or temporary overland access routes. Site preparation may occur as needed and may include some limited surface blading, grading, and filling to create a stable and level area. Although the equipment storage and laydown area would be located primarily in open areas, some vegetation removal, tree trimming, and matting or plating may be required for vehicle access.

2.6.3 Interconnection With PG&E Crescent Switching Station

To accommodate the interconnection of the Rosemary Project, PG&E would construct, operate, and maintain a gen-tie line beginning at the Rosemary Project point of change of ownership (POCO), terminating at PG&E's existing 70 kV Crescent Switching Station (as shown in Figure 2-5, *Rosemary Shared Facilities*). The POCO pole would likely occur within the Natural Resources Conservation Service easement for Rosemary Project gen-tie line Option 1, although final placement cannot currently be known with certainty. The total length of the gen-tie line from the Rosemary Project POCO to the PG&E Crescent Switching Station would be up to approximately 800 feet. Telecommunications fiber would be co-located on the proposed gen-tie line. In addition, a redundant fiber optic telecommunications line would be constructed parallel with the proposed gen-tie alignment (within 10-40 feet) in order to

meet PG&E's requirements for redundant telecommunication lines. Similar to the gen-tie, PG&E would construct, operate, and maintain the redundant line beginning at the Rosemary Project POCO, terminating at PG&E's existing Crescent Switching Station. As discussed in Section 2.5.3.2, a microwave tower may be chosen as the form of telecommunications redundancy in lieu of a fiber optic line in final engineering. In this case, the microwave tower would be installed within the Rosemary Project Substation, establishing a wireless link to the PG&E Crescent Switching Station.

PG&E would install up to approximately 800 feet of new 70 kV conductor to support installation of the new gen-tie line, as well as telecommunication conduit and grounding conduit to accommodate the primary and redundant telecommunications fiber, and station-to-station grounding and new electric transmission structures.

To further support the interconnection of the Rosemary Project, PG&E would require a portion of the existing PG&E Crescent Switching Station-Schindler 70 kV power line that runs perpendicular to the gen-tie line to be raised approximately 10-15 feet to meet clearance requirements.

2.6.4 Work Areas

The PG&E work would occur within the existing PG&E right-of-way or within *franchise areas*, which include public streets, roads, highways and other public ways and places where PG&E has a legal right to occupy. A temporary construction easement may be required for the approximately 2-acre temporary laydown area. No new land rights are expected to be acquired by PG&E for the reconductoring activities.

2.6.5 PG&E Construction

2.6.5.1 Summary of Construction Activities

PG&E, with approval of the CPUC, would conduct pole and reconductoring construction activities as required. The following construction activities are expected to occur:

- Establish work areas at structure removal/installation sites, pull sites, and staging areas. (Pull sites and work areas would be located within either an existing PG&E right-of-way or a franchise area. No temporary construction easements would be needed for this purpose.)
- Stage material and equipment in a laydown area near or adjacent to work areas.
- Install new structures.
- Complete minor modifications to existing structures (e.g., guy wires) as necessary.
- Install temporary guard structures and snub poles (if required).
- Install new conductor.
- Connect the new conductor to existing facilities at each end (each substation).
- Remove the old structures and conductor.
- Install 70kV conductor and fiber optic telecommunications cable on new gen-tie line from Rosemary Project POCO to Crescent Switching Station.
- Install fiber optic telecommunications cable on redundant line from Rosemary Project POCO to Crescent Switching Station.

- Energize the new power line.
- Complete minor modifications to the existing PG&E Helm Substation and Crescent Switching Station.

2.6.5.2 Construction Work Sequence

Tubular Steel Poles

After the implementation of required best management practices, a work area would be established through mowing and, if required, surface blading or minor grading to create a level surface. Once work areas are established, line truck, or boom truck with a small crane mounted on a flatbed would haul foundation forms, anchor bolts, rebar, and pole structures to the locations. The truck would also be used to place foundation forms, anchor bolts, and rebar before the pouring of concrete for the foundations at work areas requiring foundations. A concrete truck (typically a four-wheel-drive mixer capable of delivering 10 yards of concrete) would deliver and pour concrete for TSP foundations.

After the installation of concrete foundations (if required), a line or boom truck would remove the form. The new pole then would be installed using a crane to place the TSP on the foundation. Excess soil on the site would be feathered around the work area or placed in a way consistent with applicable requirements and in consultation with the landowner. After concrete delivery, concrete truck chutes and hoppers would be cleaned of any remaining residue before it hardens. It is anticipated that self-washing concrete trucks with mobile containment would be used to deliver concrete to the work sites. Alternatively, portable washing stations may be established at various locations throughout the PG&E Project alignment to minimize time between the concrete pour and truck clean-out. These stations would include dike walls and tarping, allowing wash water to be contained and disposed of properly. Excess construction materials would be transported to an area service center or other appropriate facility for proper disposal.

Light-Duty Steel and Wood Poles

Work areas would be established through mowing and, if required, surface blading or minor grading to create a level surface. Once work areas are established, a truck-mounted auger would drill a hole into the installation site. The pole would be installed with a line truck with a mounted crane. The hole would be either backfilled with gravel on concrete or topped with native soil. Excess soil would be spread on-site or used to backfill the holes where the existing poles are removed.

A combination of cranes, line trucks, and flatbed trucks would be used to remove existing structures. To remove the existing structures, a crane or a line truck with derrick would be rigged to the top of the structure tower and the structure would be loosened and then removed. The structure would be lowered to the ground, where it would be transported to a staging area for preparation for off-hauling to an approved disposal site. The excavation would be backfilled with the soils excavated from the new pole sites. To address CPUC General Order 95's ground-to-conductor requirements and meet current PG&E standards, PG&E may need to set a new pole in between existing pole locations. It is anticipated that no more than 10 new poles would be installed for this purpose.

Conductor Replacement

Typically, rollers would be installed and existing conductor detached using a bucket truck to transport workers and materials to each structure. For the installation of the ropes, a truck with ropes mounted on

bull wheels would be placed at one end of the pull section. Line personnel with pickup trucks would travel between each structure and thread the rope through the rollers, which would have been previously installed with small pea lines through them to facilitate insertion of the larger rope.

Next, with the rope truck on one end of the pull section and a conductor reel dolly with a tensioner on the other end, the rope would be connected to the new conductor and used to pull it into each structure. The tensioner would be utilized to keep the new conductor from sagging too low during installation. After the conductor is pulled into place, conductor sags would be adjusted to required tensions. The conductor then would be clamped to the end of each insulator as the rollers are removed. Vibration dampers and other accessories would be installed onto the conductor, and old conductor would be removed from sites on a line truck. Packing crates, spare bolts, and construction debris would be collected and hauled away for recycling or disposal during construction.

After construction, PG&E would conduct a final inspection to confirm that cleanup activities have been successfully completed as required.

Interconnection with PG&E Crescent Switching Station

For the portion of the Rosemary Project gen-tie line to be constructed by PG&E, PG&E would construct up to three new approximately 70-75 feet tall tubular steel poles (TSP) structures with a potential structure foundation depth up to 25 feet. For the portion of the redundant telecommunications line constructed by PG&E, PG&E would construct up to five new wood poles, up to 70-75 feet tall and with a potential structure foundation depth of up to 18 feet. The area around each structure installation site (approximately 700 square feet) would be cleared of vegetation. The structure foundations would be back filled and topped with gravel or excess soil. Alternatively, portions of the gen-tie line may be installed underground to avoid conflicts with existing electrical infrastructure. Undergrounding would be accomplished either through direct trenching and burying, underground directional boring, or a combination of both methods. Underground lines would likely be installed at depths of 3 to 5 feet, not to exceed 15 feet. For the installation of the conductor on the new gen-tie line, rollers would be installed on each insulator using a bucket-truck along with a pea line (small cable used to pull the conductor). Stringing equipment (wire tensioner puller, reel truck) would be placed within a stringing site at one end of the pull section, and the conductor would be pulled through each structure along the gen-tie line with controlled tension to keep it elevated and away from any obstacles on the ground, thereby preventing damage to the line and protecting the public. Similar methods would be utilized for fiber optic cable installation on the redundant telecommunications line. The expected construction period for installation of the gen-tie line and redundant telecommunications line would be approximately 4 months.

To further support the interconnection of the Rosemary Project, PG&E would require a portion of the existing PG&E Crescent Switching Station-Schindler 70 kV power line that runs perpendicular to the gen-tie line to be raised up to 30 feet to meet clearance requirements. For purposes of achieving the required conductor separation for the gen-tie line clearance, PG&E would replace up to three existing approximately 40-foot power poles with up to three approximately 70-foot power poles, within PG&E's existing right of way, in approximately the same locations or relocated up to 50 feet (north or south in line) from their original locations. Existing PG&E structures along this alignment may require minor upgrades to the existing equipment to support reconductoring activities.

Access to install the proposed gen-tie line, redundant telecommunications line, and pole replacement work areas would be via South Yuba Avenue. Some overland travel across the Natural Resources Conservation Service easement may be necessary, depending on final gen-tie design. Following construction, any temporary disturbance areas would be restored to pre-Project conditions. Hydroseeding with native seed mix would occur within temporary areas where vegetation was removed.

PG&E Work Crews and Equipment

PG&E construction activities, including structure and/or equipment replacement and modification, would be completed by PG&E. Some work could be contracted out, including crane operations, foundation construction, specialty transport, grading, and earthwork. Construction activities for the PG&E Project are expected to take up to approximately 18 months to complete.

On a typical workday, approximately 15–20 construction workers would be on-site; however, when work activities are conducted concurrently, up to 30 workers could be present at various locations along the alignment at any time. Workers may report to a field office in the vicinity of the reconductoring effort or directly to the work location. All workers are expected to report to the site from within the Fresno and Hanford–Corcoran metropolitan statistical areas.

The specific types and numbers of pieces of equipment required would be finalized after PG&E's completion of the design work. During line work, crews typically would be working at adjacent poles. Not all equipment or workers may be used during all stages of activity. All construction equipment would be self-powered. The following equipment is expected to be used to complete the proposed work:

- Pickup trucks to transport construction personnel and jeeps for environmental inspectors.
- Road grader for any site grading.
- Dozer for any grading/shaping and soil compaction/tensioning support.
- Powered road roller.
- ASV mower for vegetation clearing.
- Water trucks for dust and fire control.
- Cranes for tower installation and reconductoring.
- Flatbed trucks to haul materials.
- Dump trucks (5- to 10-ton) to haul any spoil and import materials.
- Construction trucks and trailers (2- to 60-ton) to haul materials.
- Rigging truck to haul tools and equipment.
- Mechanic truck to service and repair equipment.
- Auger to excavate foundations.
- Bulldozers for site grading and excavation.
- Puller (semi-truck and trailer) to pull conductor wire.
- Tensioner (semi-truck and trailer) to pull conductor wire.

- Semi-truck with wire reel trailer to haul wire.
- Air compressor to operate air tools.
- Air tampers to compact the soil around foundations.
- Portable generators to power the tools used for tower assembly.
- Fuel trucks to refuel equipment.
- Aerial lift trucks to string conductor wire.
- Concrete trucks.
- Forklift to manage and assemble material at the proposed laydown area.
- Bucket trucks for pulling sites, insulator replacement, and reconductoring.
- Fire suppression equipment.

2.6.6 PG&E Operation and Maintenance

O&M activities associated with the reconductored electrical line would not change from PG&E's current practices. Those practices include monitoring the system remotely, responding and repairing the line if outages are detected, and conducting routine inspections of the line and poles at regular intervals. The PG&E Project facilities are anticipated to operate in perpetuity. Therefore, decommissioning activities are not described or analyzed for the PG&E Project in this EIR.

O&M activities associated with the portion of the Rosemary Project gen-tie and redundant telecommunications line operated by PG&E would include monitoring the system remotely, responding and repairing the line if outages are detected, and conducting routine inspections of the line and poles at regular intervals. Decommissioning of this portion of the Rosemary gen-tie line and redundant telecommunications line is described in Section 2.5.8, *Rosemary Project Decommissioning and Site Reclamation*.

2.6.7 PG&E-Proposed Standard Practices and Measures

PG&E and construction crews working on PG&E projects implement standard measures and other best practices to help ensure crew and public safety and to minimize potential impacts on environmental resources. At a minimum, the following actions would be implemented during construction of the PG&E Project.

2.6.7.1 Electric and Magnetic Fields

PG&E will employ "no cost" and specified "low cost" measures to reduce public exposure to electric and magnetic fields (EMFs) in accordance with CPUC Decision 06-01-042 (CPUC 2006a), the state's EMF Design Guidelines for Electrical Facilities (CPUC 2006b), and PG&E's EMF Policies (PG&E 2024a).

2.6.7.2 Wildfire Risk Management

PG&E will continue to implement precautionary measures as part of its operation and maintenance of the existing Helm–Crescent 70 kV electric transmission line that are intended to reduce the risk of wildfires consistent with the company's Community Wildfire Safety Program (PG&E 2024b). The program includes

use of technology to predict, monitor, and respond to wildfires and severe weather conditions; appropriate materials, such as sufficiently robust poles and covered powerlines; vegetation management; and vigilance.

PG&E also would continue to follow its standard fire risk management procedures, including safe work practices, work permit programs, training, and fire response. Project personnel would be directed to park away from dry vegetation. During fire season, all motorized equipment driving off paved or maintained gravel/dirt roads would have federal- or state-approved spark arrestors. All off-road vehicles would be equipped with a shovel and a backpack pump filled with water and all fuel trucks will carry a large fire extinguisher with a minimum rating of 40 B:C, meaning the fire extinguisher would have capacity to extinguish a flammable liquid fire (Class B) covering 40 square feet and to combat electrical fires (Class C).

2.6.7.3 Aesthetics

Use of Non-reflective Finishes: PG&E will use non-specular conductor and a non-reflective finish for the poles to reduce the potential for new sources of glare.

Minimization of Effects of Temporary Nighttime Construction Lighting on Sensitive Receptors: If temporary nighttime lighting is required for construction in close proximity to sensitive receptors such as existing residences and sensitive habitat areas (including, but not limited to, security lighting at the proposed staging area), it will be focused on work areas and directed on-site to minimize potential spillover or glare with respect to areas outside the work area. Non-glare or hooded fixtures may be utilized.

2.6.7.4 Nesting Bird Impact Avoidance

If construction work is scheduled during the nesting season (February 1 through August 31), nest detection surveys will correspond with a standard buffer for individual species in accordance with species-specific buffers will occur within 7 days prior to the start of construction to determine nesting status by a qualified biologist. Nest surveys will be accomplished by ground surveys and will support phased construction, with surveys scheduled to be repeated if construction lapses in a construction work area for 7 days between March and July. Access for ground surveys will be subject to property owner permission.

If active nests containing eggs or young are found, the biologist will establish an appropriate species-specific nest buffer. Nesting pair acclimation to disturbance in areas with regularly occurring human activities will be considered when establishing nest buffers. The established buffers will remain in effect until the young have fledged or the nest is no longer active as confirmed by the biologist. Active nests will be periodically monitored until the biologist has determined that the young have fledged or once construction ends. At the discretion of the biologist, vegetation removal by hand may be allowed within nest buffers or in areas of potential nesting activity. Inactive nests may be removed in accordance with PG&E's approved avian permits. The biologist will have authority to order the cessation of nearby project activities if nesting pairs exhibit signs of disturbance.

2.6.7.5 Worker Environmental Awareness Programs

Biological Resources: A qualified biologist will conduct an environmental awareness program for all on-site construction personnel before they begin work on the project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as

well as the terms and conditions of any required project permits. Training will include information about the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Under this training program, workers shall be informed of the presence, life history, and habitat requirements of all special-status species that may be affected in the project area, and about state and federal laws protecting nesting birds, wetlands, and other aquatic resources. An educational brochure will be produced for construction crews working on the PG&E Project. Color photos of special-status species will be included, as well as a discussion of specific relevant avoidance or minimization measures for special-status species and habitats.

Cultural Resources: PG&E will provide environmental awareness training on archeological resources protection. This training may be administered by the principal cultural resource specialist as a stand-alone training or included as part of an overall environmental awareness training and will at minimum include: types of cultural resources or fossils that could occur at the PG&E Project site, types of soils or lithologies in which the cultural resources could be preserved, procedures that should be followed in the event of a cultural resource or human remains discovery, and penalties for disturbing cultural resources.

2.6.7.6 Temporary Traffic Controls

PG&E will obtain any necessary transportation and/or encroachment permits, including for the transport of any oversized loads and certain materials, and will comply with permit requirements designed to prevent excessive congestion or traffic hazards during lane closures. PG&E will develop lane closure/ width reduction or traffic diversion plans if/as required by the encroachment permits. Construction activities that are in, along, or cross local roadways will follow best management practices and/or local jurisdictional encroachment permit requirements to minimize impacts to traffic and transportation in the work area.

2.6.7.7 Other Construction Measures and Practices

Construction crews, whether PG&E employees or contractors, will implement the following standard measures and other best practices:

- **Litter and Trash Management:** All food scraps, wrappers, food containers, cans, bottles, and other trash from work areas will be deposited in closed trash containers.
- **Parking Requirements:** Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas, as identified above. Off-road parking will only be permitted in previously identified and designated work areas.
- **Route and Speed Limitations:** Vehicles will be confined to established roadways and preapproved access roads, overland routes, and access areas. Access routes and temporary work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Vehicular speeds will be kept to 15 mph on unpaved roads with no posted speed limit.
- **Maintenance and Refueling Requirements:** All equipment will be properly maintained for the duration of construction. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated work areas and located at least 100 feet from any downgradient aquatic habitat, unless otherwise isolated from habitat. Proper spill prevention and cleanup equipment will be maintained in all refueling areas.

- **Hazardous Materials Spills:** Emergency spill response and cleanup kits will be readily available for immediate containment and cleanup of an accidental spill. Construction crews will be trained in safe handling of hazardous materials and cleanup responsibilities. Any spills into aquatic habitat will be reported to the County and Regional Water Quality Control Board within 24 hours.
- **Erosion Control Materials:** Only tightly woven netting or similar material will be used for erosion control materials, such as coir rolls and geo-textiles, within or adjacent to suitable habitat for sensitive species. No plastic monofilament matting will be used.
- **Prohibited Activities:** Trash dumping, firearms, open fires (such as barbecues), hunting, and pets will be prohibited at work sites. Smoking will be permitted only in designated smoking areas or within the cabs of vehicles or equipment.

2.7 Permits and Approvals

Permits and approvals that are expected to be required for the Project are identified in **Table 2-3**, *Permits and Approvals*.

TABLE 2-3
PERMITS AND APPROVALS

Permitting Agency	Potential Permit Requirements
Fresno County, Department of Public Works and Planning	County permits would be needed for the Rosemary Project, including: • Unclassified conditional use permit to authorize the discretionary development of a solar facility on lands within an AE-20 zone. • Lot merger or parcel map to merge multiple parcels to a single parcel within the Rosemary 1 facility. • Potentially ministerial (non-discretionary) County approvals, including site plan review; building and grading permit(s) for the erection, demolition, or conversion of any building or structure; encroachment permit(s) for any improvements in the County ROW; and development permit(s) for any development within a special flood hazard area.
California Department of Fish and Wildlife	An incidental take permit would be needed for the Rosemary Project and/or the PG&E Project before any authorized take of a state-listed species could occur. A Section 1602 Lake and Streambed Alteration Agreement would be needed before for the PG&E Project lawfully could substantially divert or obstruct the natural flow of any river, stream, or lake, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake.
California Public Utilities Commission	Approval would be required authorizing PG&E utility network upgrades, including reconductoring and switchyard upgrades, pursuant to General Order 131-E.[a] The CPUC has exclusive permitting jurisdiction over PG&E because PG&E is an investor-owned utility.
State Water Resources Control Board/Central Valley Regional Water Quality Control Board	A National Pollutant Discharge Elimination System Construction Storm Water Permit would be required for the Rosemary Project and may be required for the PG&E Project. A Clean Water Act Section 401 Water Quality Certification may be needed for the PG&E Project.
San Joaquin Valley Air Pollution Control District	District approval of Indirect Source Review for stationary and/or mobile sources may be required for either the Rosemary Project or the PG&E Project, or both.
U.S. Army Corps of Engineers	A Clean Water Act Section 404 (Nationwide) Permit would be needed for the PG&E Project before construction lawfully could occur in non-tidal waters of the U.S..
Natural Resources Conservation Service	One or more ROWs/easement subordinations may be required for conservation easement crossings for the Rosemary Project.
U.S. Fish and Wildlife Service	Authorizations obtained pursuant to the federal Endangered Species Act could be required before any authorized take of a federally listed species could occur. Authorizations could be needed for either the Rosemary Project or the PG&E Project, or both.
U.S. Bureau of Reclamation	One or more ROWs may be required for U.S. Bureau of Reclamation canal crossings.

Permitting Agency	Potential Permit Requirements

NOTES: AE-20 = Exclusive Agricultural (20-acre minimum parcel size) zone district; County = Fresno County; CPUC = California Public Utilities Commission; PG&E = Pacific Gas and Electric Company; Project = the Rosemary Project and the PG&E Project, considered together; ROW = right-of-way

a. According to CPUC General Order 131-E, Section III, Subsection B.2, projects meeting the following specific conditions are exempt from CPUC's requirement for a permit to construct: "power lines or substations to be relocated or constructed, which have undergone environmental review pursuant to CEQA as part of a larger project, and for which the final CEQA document… finds no significant unavoidable environmental impacts caused by the proposed line or substation."

SOURCE: Data compiled and developed by Environmental Science Associates in 2024

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CHAPTER 3
Environmental Analysis of Project Impacts

3.1 Introduction to Environmental Analysis

3.1.1 Overview

This chapter describes and analyzes the direct, indirect, and cumulative environmental impacts of the Project (the Rosemary Project and the PG&E Project); Project alternatives are described and analyzed in Chapter 4, *Alternatives*. The impacts analyses consider each of the resource considerations identified in the Environmental Checklist provided in the California Environmental Quality Act (CEQA) Guidelines Appendix G, which include the following:

- Aesthetics;
- Agriculture and forestry resources;
- Air quality;
- Biological resources;
- Cultural resources and tribal cultural resources;
- Energy;
- Geology, soils, and paleontological resources;
- Greenhouse gas emissions;
- Hazards and hazardous materials;
- Hydrology and water quality;
- Land use and planning;
- Mineral resources;
- Noise and acoustics;
- Population and housing;
- Public services;
- Recreation;
- Transportation;
- Utilities and service systems; and
- Wildfire.

3.1.2 Environmental Assessment Methodology

3.1.2.1 Environmental Baseline

The analysis of each resource 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, 15126.2). For this Project, baseline conditions are those as they existed in November 2024 when the Notice of Preparation was published, unless otherwise noted. The Notice of Preparation is included as an exhibit to the Scoping Report provided in Appendix A. 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 lead agency, 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. 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:** This signifies that a 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:** This signifies that a 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:** This signifies that a project or an alternative could cause an adverse change in the environment that would be substantial relative to the applicable significance threshold, but that 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:** This signifies that a 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:** This signifies that a project-specific or alternative-specific contribution to a significant cumulative effect would be considerable (i.e., significant) 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).

An analysis of Project impacts is provided on a resource-by-resource basis in Chapter 3, *Environmental Analysis of Project Impacts*. Within each resource area, potential significant direct and indirect impacts are numbered sequentially. Cumulative effects either continue the sequence or, if they are specific to a single earlier impact, add a "c" for cumulative to the original impact number.

3.1.2.4 Mitigation Measures

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 Chapter 3, *Environmental Analysis of Project Impacts*, and included in Table ES-2, *Summary of Impacts and Mitigation Measures*. These measures would be implemented during all appropriate phases of the Project, from initial groundbreaking and construction to operation and maintenance, and through decommissioning and site restoration. These measures refer to the *Project owner* rather than the *Applicant* in anticipation of defining different entities' responsibilities if the Project is approved. For the purposes of implementation of these measures, the Project owner is defined as the Applicant, its successors and assigns, and/or its contractors.

3.1.3 Cumulative Effects Approach

As defined in CEQA Guidelines Section 15355, the term *cumulative effects* refers to two or more individual effects, which, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative effects 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 effects can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Sections 15355[b], 15130[a][1]).

The analysis in this EIR evaluates potential cumulative effects on a resource-by-resource basis by considering the incremental impacts of the Project (or alternative) together with the ongoing effects of past, present, and reasonably foreseeable probable future projects that could cause environmental impacts that are closely related to those caused by the Applicant's proposal. 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 Projects

Consistent with CEQA Guidelines Section 15130(b)(1)(A), on This EIR relies on list of past, present, and probable future projects producing related or cumulative effects, including, if necessary, projects that may be outside the control of the lead agency. A list of projects within a 15-mile radius of the Project site 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 list of projects is based on a 15-mile radius, the geographic area of cumulative consideration is established on a resource-by-resource basis 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.

TABLE 3.1-1
CUMULATIVE PROJECTS LIST

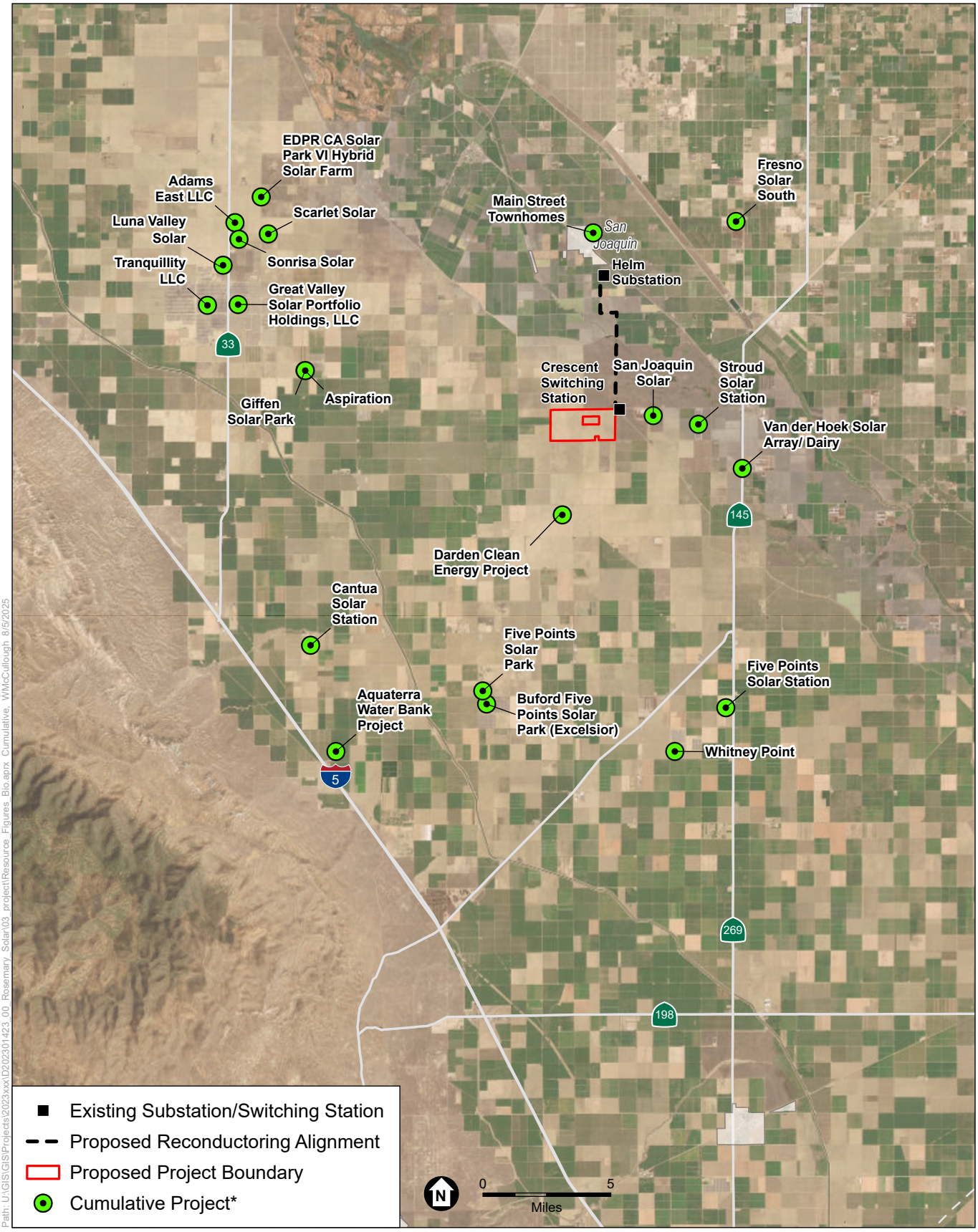
Project Name/Applicant	Location	Approximate Distance from Project Site	Description	Status
Past Projects				
Aspiration G Solar Farm	West Mountain View Avenue and South Nebraska Avenue, Fresno County	7.5 miles northwest	9 MW PV solar power generation facility with related improvements on an 80-acre portion of a 120-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zone district (CEQAnet 2015a).	Operational since 2017.
Five Points Solar Park	West Excelsior Avenue and Sonoma Avenue, Fresno County	8 miles south	60 MW PV solar farm and interconnection (UC Davis 2024).	Operational since 2011.
Five Points Solar Station	West Excelsior Avenue and Lassen Avenue	8.75 miles southeast	15 MWac PV solar project (GEM 2024a)	Operational since 2011.
Fresno Solar PV	West of South Lassen Avenue and 1 mile north of Manning Avenue	7.75 miles northeast	1.5 MWac PV solar project (GEM 2024b).	Operational since 2015.
Giffen Solar Park	North side of Mountain View Avenue between Stanislaus Avenue and Oil City Road, Fresno County	12.5 miles northeast	PV solar generation and battery energy storage project with related improvements on approximately 317 acres (County CUP No. 3383) plus related PG&E infrastructure, including expansion of an existing 70 kV substation and installation of a 70 kV double-circuit power line (CEQAnet 2015b).	Operational since 2017.
RE Adams East Solar Farm	East side SR 33 between South Avenue and West Manning	11.25 miles northeast	19 MWac PV solar project (GEM 2024c).	Operational since 2014.
San Joaquin Solar	Bounded by South Butte Avenue to the west and West Kamm Avenue to the north	1 mile east	19.8 MWac PV solar project (GEM 2024d).	Operational since 2018.
Crescent Switching Station (PG&E) and San Joaquin Solar Project interconnection	South of West Kamm Avenue between South Yuba Avenue and South Oil City Avenue; within the PG&E facilities	Overlaps with PG&E Crescent Switching Station	70 kV gen-tie line and switching station	Operational since 2018.
Tranquillity ID Solar Farm	West Manning Avenue and South Derrick Avenue, Fresno County	8.25 miles northwest	400 MW of PV solar electricity generating facilities, switching station, and associated infrastructure on approximately 3,732 acres with interconnection to two PG&E transmission lines: the Panoche–Helm and Panoche–Kearney lines (CEQAnet 2014).	Operational since 2018.
Van der Hoek Solar Array/Dairy	Bounded by West Clarkson Avenue to the South and SR 145 to the west	4.25 miles southeast	2.4 MWac PV solar project (GEM 2024e).	Operational since 2017.
Great Valley Solar Portfolio Holdings	South of Manning Avenue and east of South Derrick Avenue	10 miles northwest	102 MWac PV solar project (GEM 2024f).	Operational since 2018.
Stroud Solar Station	South of West Kamm Avenue and east of South Lake Avenue	2.5 miles east	20 MWac PV solar project (GEM 2024g).	Operational since 2011.

Project Name/Applicant	Location	Approximate Distance from Project Site	Description	Status
Cantua Solar Station	Southwest of the intersection of Mt Whitney Avenue and South Stanislaus Avenue	9.5 miles southwest	20 MWac PV solar project (GEM 2024h).	Operational since 2012.
Westside and Whitney Point Solar Farm	Bounded by South Lake Avenue and West Paige Avenue	9.25 miles southeast	Two PV solar projects, each 20 MW, on 160 acres (dk Engineering 2024).	Operational since 2017.
Unnamed Solar Project of approximately 80 acres	Bounded by West Kamm Ave and South San Mateo Ave	5.5 miles west	Unnamed solar facility located 5.5 miles west of the project site.	Operational.
Current or Reasonably Foreseeable Future Projects				
EDPR CA Solar Park VI Hybrid Solar Farm	3.5 miles west-southwest of the community of Tranquillity	11.5 miles northwest	200 MW PV solar energy generating facility and 40 MW energy storage facility on approximately 2,000 acres (EDP 2023).	Expected operational in 2026.
Darden Clean Energy Project	South of West Kamm Avenue and north of Mount Whitney Avenue, approximately 3 miles west of Highway 145	Adjacent	1,150 MW PV solar energy generating facility, 4,600 MWh energy storage system, 15-mile 500kV gen-tie, and associated infrastructure on approximately 9,500 acres	Expected operational no sooner than 2027
Luna Valley Solar	South of West South Avenue, north of Dinuba Avenue, and west of SR 33	10 miles northwest	1,300-acre PV solar generating up to 200 megawatts alternating current; supporting facilities include an on-site substation and energy storage system	Construction in process; planned for operation mid-late 2025
Scarlet Solar	SR 33 and Manning Avenue	9.5 miles northwest	400 MW PV solar electricity generating facility and 400 MW energy storage system and associated infrastructure on approximately 4,089 acres (CEQAnet 2018; County EIR No. 7230).	In pre-construction as of December 2024.
Sonrisa Solar	South of West Adams Avenue, north of West Manning Avenue, west of South Merced Avenue, and east of SR 33	11 miles northwest	2,300-acre, 200 MW PV solar facility with 200 MW energy storage system (County EIR No. 7869)	Approved January 2025; construction pending.
Valley Clean Infrastructure Plan/ Golden State Clean Energy	Westlands Water District boundary within Fresno County just west of I-5 (to the west) and extending from south from Firebaugh to the Avenal Cutoff Road	Master plan overlaps Project area	Master plan for solar generation, energy storage, and electrical transmission on 130,000 acres in western Fresno County and the central San Joaquin Valley	Draft EIR released for public review in February 2024
Del Norte Estates	Whitesbridge Avenue (SR 180) and Del Norte Avenue	15 miles northeast	Proposed entitlement and development of 48 acres of land with up to 200 single-family dwelling units, 100 multifamily dwelling units, a 15,000 square foot retail plaza, and two 3,500 square foot fast-food restaurants with drive-throughs. The project includes a proposed General Plan amendment, rezone, cancellation of a Williamson Act contract, and tentative subdivision map to accommodate the project. The project site and a 23-acre parcel to the east proposed to be annexed into the city of Kerman (CEQAnet 2024a).	State review period end: December 9, 2024.

Project Name/Applicant	Location	Approximate Distance from Project Site	Description	Status
Main Street Townhomes	Intersection of Main Street and Arizona Avenue in San Joaquin	5.5 miles north	44-unit single-family development (duplex homes) on approximately 5 acres, including internal roads, landscaping, and related infrastructure. The project includes a proposed rezone from R-1 (single-family residential) to R-2 (multi-family residential), and General Plan amendment (CEQAnet 2024b).	State review period end: November 11, 2024.
Aquaterra Water Bank Project	Throughout Fresno County	NA	The McMullin Area Groundwater Sustainability Agency (MAGSA) is proposing to develop infrastructure to receive water from, and convey water to, the James Bypass and the Mendota Pool. Received waters would be conveyed to recharge basins during wet periods and returned to the Mendota Pool during dry periods. The Project is proposed in Fresno County and the Kings Subbasin, within the +/- 120,000-acre MAGSA management area. • Conveyance Infrastructure and Temporary Construction Easements: 63.5 linear miles by 200 feet horizontal width (approximately 1,804 acres total) and includes the main canal's levees, lateral levees, pump stations along the main canals with pumps, recovery wells, staging areas, and road crossings. • 3,294 acres of farmland would be used for recharge basins. • Construction would take approximately 3.5 years. (CEQAnet 2024c)	State review period end: April 18, 2024.

NOTES: CUP = conditional use permit; EIR = environmental impact report; kV = kilovolt; MW = megawatt; MWac = megawatts alternating current; No. = number; PG&E = Pacific Gas and Electric Company; PV = photovoltaic; SR = State Route.

SOURCE: California Energy Commission (CEC), 2025. CEQAnet 2014, 2015a, 2015b, 2018, 2024a, 2024b, 2024c, 2025; dk Engineering 2024; EDP 2023; GEM 2024a, 2024b, 2024c, 2024d, 2024e, 2024f, 2024g, 2024h; UC Davis 2024.



Path: U:\GIS\GIS\Projects\2023xxx\D2023011423_00_Rosemary_Solar\03_project\Resource_Figures_Bio.aprx Cumulative_WMcCullough 8/5/2025

Source: CA Data Basin, 2025; CA Energy Commission, 2025; ESA, 2025

* Note: WWD Valley Clean Infrastructure Plan is not displayed on this map as it is an area wide plan.

Rosemary Solar and Energy Storage System Complex

Figure 3.1-1
Cumulative Projects within 15-miles of the Project Site

ESA

3.1.3.2 Cumulative Effects Analysis

Incremental impacts resulting from initial site preparation and construction, operation and maintenance, and decommissioning and site restoration could combine with the incremental impacts of other projects to cause or contribute to cumulative effects. Direct and indirect effects of the Project and alternatives are analyzed on a resource-by-resource basis. Where the Project or an alternative would cause no impact to a given resource, it could not cause or contribute to any cumulative effect to such resource (e.g., Section 3.17, *Recreation*).

For the remaining resource areas, this EIR analyzes potential incremental impacts of the Project and alternatives combined with the incremental impacts of past, other 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 at any time during the conditional use permit period, from the moment on-site activities begin to the conclusion of post-Project site restoration activities. Existing conditions within the cumulative effects area reflect a combination of the natural condition and the ongoing effects of past actions in the affected area.

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3.2 Aesthetics

This section identifies and evaluates issues related to aesthetics and visual resources, including scenic vistas and other scenic resources, the existing visual character or quality of public views of the Project site and its surroundings, light, and glare. The section describes the environmental 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 did not receive comments regarding aesthetics during the public scoping period (**Appendix A**, *Scoping Report*). This analysis is based in part on Project-specific visual simulations and analysis prepared for the Rosemary Project and for the PG&E Project (**Appendix C**). 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 the preparation of this Draft EIR.

3.2.1 Visual Concepts and Terminology

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 distances are described according to whether the Project would be viewed within a foreground (within 0.5 mile), middle ground (0.5 mile to 2 miles), or background (beyond 2 miles) zone.
- *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**, *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.
- 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.
- ***Visual contrast*** is a measure of the degree of change in line, form, color, and texture that a project would create, when compared to the existing landscape. Visual contrast ranges from none to strong, and may be defined as follows:
  - *None*—The element contrast is not visible or perceived.
  - *Weak*—The element contrast can be seen but does not attract attention.
  - *Moderate*—The element contrast begins to attract attention and begins to dominate the characteristic landscape.
  - *Strong*—The element contrast demands the viewer's attention and cannot be overlooked.
- ***Visual dominance*** is a measure of a project feature's apparent size relative to other visible landscape features in the viewshed or seen area.
- ***View blockage*** *or* ***impairment*** is a measure of the degree to which a project's features would obstruct or block views of aesthetic features due to its relative position and/or scale.

3.2.2 Setting

3.2.2.1 Study Area

The Project site (i.e., the Rosemary Project site plus the PG&E Project site) is located in western Fresno County within the central San Joaquin Valley, approximately 25 miles southwest of the City of Fresno. 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 site is the community of Helm, roughly 2.75 miles to the east; the City of San Joaquin is 1.5 miles north of the northern most portion of the PG&E Project site. Interstate 5 (I-5) bisects the valley (north to south) and is located approximately 15 miles west of the Project site. 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.

The study area for the analysis of aesthetic and visual resource impacts includes the area within 2 miles of the Rosemary Project and the PG&E Project. At 2 miles, views transition from the middle ground to the background and visible features become indistinct to the naked eye.

3.2.2.2 Viewer Types and Exposures

Potential public viewer groups evaluated for this analysis are primarily motorists along West Kamm Avenue and other local roadways and local rural residents and agricultural workers with open, public

views of the site. The viewing experience for motorists traveling along West Kamm Avenue, the only public, paved road along the Project site, would be fleeting and generally limited based on the speed of travel. There is one local rural residence within 1,000 feet of the Project site, approximately 80 feet west of the northernmost portion of the PG&E Project site. Viewer sensitivity for this local residence would be minimal as the PG&E Project, once operational, would fit the existing character of the already existing transmission line.

With regard to viewer exposure, 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 such views would be open or panoramic, or limited by intervening vegetation, structures, or terrain. Duration of view refers to the amount of time the Project typically would be seen from a sensitive viewpoint. In general, the duration of view would be shorter in instances where the Project would be seen for short or intermittent periods (such as from major travel routes and recreation destination roads) and greater in instances where the Project would be seen regularly and repeatedly (such as from public use areas where the viewer is stationary). Viewing distances are described according to whether the Project would be viewed within a foreground (within 0.5 mile), middle ground (0.5 mile to 2 miles), or background (beyond 2 miles) zone.

State Scenic Highways and Major Roads

There are no state-designated or eligible highways near the Project site. State Route (SR) 180 (from the eastern edge of the City 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 approximately 38 miles from the Project site. The California Scenic Highway Mapping System identifies highway segments that are potentially eligible for future designation as State Scenic Highways. I-5 is the only Eligible State Scenic highway within 20 miles (Caltrans 2012). The Project site is not visible from either of these designated or eligible State Scenic Routes.

Parks and Recreational Areas

Recreational users are generally determined to be the viewers most sensitive to visual impacts. There are no established parks or recreational facilities within view of or near the Project site. The closest recreational area to the Project site is Peter Rusconi Park within the city of San Joaquin, located approximately 2 miles from the existing PG&E Helm Substation site where the PG&E Project would terminate.

Scenic Vistas

There are no County General Plan–designated scenic vistas in the Project vicinity. Additionally, Google Earth was used to search for any other designated natural, elevated scenic vistas near the Project site. Due to the flat nature of the study area and region, there are no unique, elevated areas from which an individual could gain an exemplary high-quality view within the vicinity of the Project site.

3.2.2.3 Environmental Setting

Environmental conditions in the study area as discussed in this section include the regional and local characteristics of the area; existing sources of light and glare; sensitive visual receptors; visual quality of the study area; and the KOPs from which the Project would be visible, to determine existing conditions with respect to visual resources.

Regional Character

The visual character of the Project site and surroundings represents a combination of agricultural and industrial elements. The 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.

Local Character

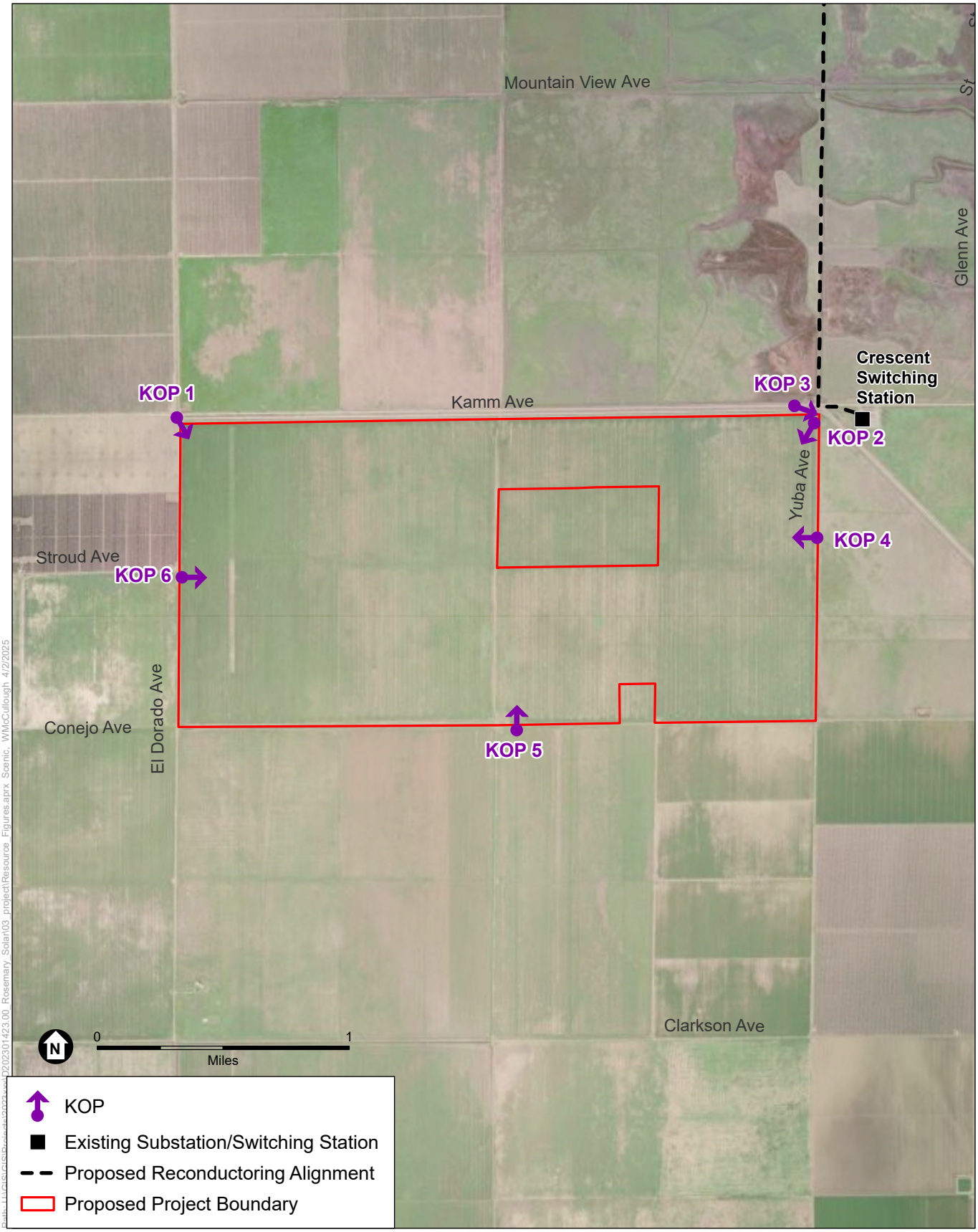
The approximately 5-linear-mile-long, approximately 50-foot-wide corridor where the PG&E Project would occur primarily runs along private unpaved roads adjacent to agricultural fields: South Placer Avenue, West Floral Avenue, and South Yuba Avenue. The southernmost stretch of the PG&E Project corridor is located near the northwest corner of the Rosemary Project site along West Kamm Avenue, the only public paved road within the Project corridor.

The Project vicinity consists of flat terrain that is zoned for agricultural use. Land uses to the north and south of the site are agricultural. Land uses to the east of the Project site include a fertilizer manufacturer/supplier, solar PV generating facilities, agricultural uses, and other businesses. Land uses to the west of the Project site include agricultural orchards, a solar PV generating facility, and residential uses. The nearest residence to the site is approximately 80 feet west of PG&E's existing Helm–Crescent 70-kilovolt (kV) electric transmission line, at the corner of South Placer Avenue and West Dinuba Avenue, diagonal to the Helm Substation where the northernmost portion of the proposed PG&E Project segment of the transmission line connects to the regional grid. The topography is relatively flat, with open expansive views of distant hills and mountains framing the valley. The built environment includes an irrigation ditch, low metal guardrails and wire fences, as well as local dirt and paved roads extending from SR 145. Local electrical distribution lines supported by wooden poles intersect and are located near the Project site.

Visual Character and Quality of Public Views

Representative photos of the Rosemary Project site are provided to depict the existing visual character and quality of the Project site and surroundings as viewed from six KOPs. Given that the PG&E Project would reconductor the existing transmission line and provide improvements to existing associated facilities, its presence is reflected in the visual character and quality of public views as part of the existing setting. Therefore, the visual character and quality of public views specific to the PG&E Project are not separately described.

Figure 3.2-1 shows the locations of the six KOPs selected for the Project's analysis of visual effects. A description of the visual characteristics of each KOP follows.



Source: ESA, 2025; CDOC, 2023

Rosemary Solar and Energy Storage System Complex

Figure 3.2-1
Key Observation Points (KOP)

ESA

KOP 1

KOP 1 represents views motorists would experience at the northeastern corner of the Rosemary Project site on West Kamm Avenue, as depicted in **Figure 3.2-2**, *KOP 1—Looking Southeast from Northwest Corner of Project Site*. Motorists would be the primary viewer group at this KOP. The viewing experience for motorists would be fleeting and generally limited based on speed of travel. The middle ground view from this view is open and expansive. Fallowed, flat farmland and dry vegetation can be seen along the route. Green and blue hues shape the Diablo Range foothills beyond the distant mountains in the background view. Overhead transmission system facilities supported by wooden poles along the perimeter of the site can also be seen from this view. The existing PG&E Crescent Switching Station, a fertilizer manufacturer/supplier, and agricultural uses are directly east of this KOP along West Kamm Avenue (i.e., behind the viewer).

KOP 2

The view at KOP 2 represents a view seen by motorists heading east along West Kamm Avenue from the northwestern corner of the Rosemary Project site. Motorists would be the primary viewer group at this KOP. The viewing experience for motorists would be fleeting and generally limited based on speed of travel. As depicted in **Figure 3.2-3**, *KOP 2—Looking Southwest from Northeast Corner of Project Site*, the south facing view is open and expansive with fallowed, flat farmland, and dry vegetation. Views of the orchards adjacent to the west of the Rosemary Project site, a small sign posted on the northeastern corner of the site, as well as a small, short fence bordering the western end of the San Luis Drain that is bordering the northwestern corner of the site can be seen from this KOP. Traveling further eastward along the northern boundary of the Rosemary Project site via West Kamm Ave, motorists looking south towards the site would encounter a retention basin within the Rosemary Project site and a canal located near the eastern border of the site during their viewing experience; however, these structures cannot be seen from KOP 2. No additional built structures are visible from the Rosemary Project site. Agricultural fields are directly west of this KOP.

KOP 3

The view at KOP 3 represents a view seen at the northeastern corner of the Rosemary Project site looking down at a canal, as depicted in **Figure 3.2-4**, *KOP 3—Looking Southeast at a Canal from Northeast Corner of Project Site*. Pedestrians traveling eastward along West Kamm Avenue, at the northeastern corner of the Rosemary Project site would be the primary viewer group at this KOP. While pedestrians are not the primary viewer group of the Rosemary Project site given the rural nature of the site, the view at KOP 3 is representative of existing features adjacent east of the Rosemary Project site. KOP 3 exhibits a view of existing features seen directly east of the Rosemary Project site. The view at KOP 3 shows a canal, a small sign in the far distance, as well as fencing and a pole further east, likely from the neighboring PG&E Crescent Switching Station and associated structures. Fallow, flat farmland and dry vegetation can also be seen from this KOP.

Views of the Rosemary Project site from the bordering private, unpaved roads would provide low viewership of the site. KOPs 4 through 6 were selected as representative visual vantage points along South Yuba Avenue, West Conejo Avenue, and South Dorado Avenue, respectively, as experienced by motorists or residents, the main viewer groups in the study area. These roads are located along the eastern, southern, and western borders of the Rosemary Project site, respectively. Figure 3.2-5 and Figure 3.2-7 provide representative existing views from both KOPs selected for the Project's analysis of visual effects. A description of the visual characteristics of each KOP follows.



2023/D202301423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

ESA

Figure 3.2-2
KOP 1
Looking Southeast from Northwest Corner of Project Site



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SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

ESA

Figure 3.2-3
KOP 2
Looking Southwest from Northeast Corner of Project Site



2023/D2023011423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ESA

Rosemary Solar and Energy Storage System Complex

ESA

Figure 3.2-4
KOP 3
Looking Southeast at a Canal from Northeast Corner of Project Site

KOP 4

The representative public view at KOP 4 is from South Yuba Avenue along the eastern edge of the Rosemary Project site. As shown in **Figure 3.2-5**, *KOP 4—Looking West from Eastern Boundary of Project Site*, motorists and agricultural workers would be the primary viewer group at this KOP. Views looking west from the eastern edge of the Rosemary Project site exhibit views similar to views seen from KOP 4. Fallowed, flat farmland, dry grass, and green bushes can be seen along the route as well as green and blue hues among the middle-ground view of the Diablo Range foothills beyond the distant mountains in the background. Built structures cannot be seen from this view.

KOP 5

Looking north along West Conejo Avenue at the southern border of the Rosemary Project site, motorists and agricultural workers at KOP 5 view an open and expansive fallowed agricultural field with dry vegetation (**Figure 3.2-6**, *KOP 5—Looking North from Southern Boundary of Project Site*). Agricultural lands are directly south of this KOP. No other built structures cannot be seen from this view.

KOP 6

Looking east along South El Dorado Avenue at the western border of the Rosemary Project site, motorists and agricultural workers at KOP 6 view an open and expansive fallowed agricultural field with dry vegetation and a blue fire hydrant near the western border (**Figure 3.2-7**, *KOP 6—Looking East from Western Boundary of Project Site*). Minimally visible along the middle-ground view from this KOP are existing structures in the far distance located passing the eastern border of the Rosemary Project site. The existing structures minimally visible in the far distance from this KOP would likely be the existing PG&E Crescent Switching Station. Agricultural orchards are directly west of this KOP.

Lighting Environment

There is minimal artificial lighting in the vicinity of the Project site, due to its remote, rural, and relatively undeveloped location with very few sensitive receptors. Vehicle lights along West Kamm Avenue and local private unpaved roads, lighting from the fertilizer manufacturer/supplier, and agricultural equipment contribute to the minimal existing lighting environment.

3.2.2.4 Regulatory Setting

Federal

No federal regulations pertain to visual resources in the Project vicinity.

State

California Department of Transportation State Scenic Highways Program

California's Scenic Highway Program, administered by the California Department of Transportation (Caltrans), was created by the Legislature in 1963 to preserve and protect scenic highway corridors from changes that would diminish the aesthetic quality of lands adjacent to highways. The State Scenic Highway System includes highways that either are eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway shifts from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives the designation. Local jurisdictions may propose adding routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for the routes to become officially designated. There are no officially designated or eligible state scenic highways in the vicinity of the Project site.



2023/D2023011423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ESA

Rosemary Solar and Energy Storage System Complex

ESA

Figure 3.2-5
KOP 4
Looking West from Eastern Boundary of Project Site



2023/D2023011423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ESA

Rosemary Solar and Energy Storage System Complex

ESA

Figure 3.2-6
KOP 5
Looking North from Southern Boundary of Project Site



2023/D2023011423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ESA

Rosemary Solar and Energy Storage System Complex

ESA

Figure 3.2-7
KOP 6
Looking East from Western Boundary of Project Site

Local

Fresno County Designated Scenic Highways

The County has designated a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways. Landscaped drives are roads bordered by mature and consistent landscaping with an area-wide significance. The closest Fresno County-designated scenic highway segments are SR 198 from I-5 to the Monterey County line (approximately 19 miles south of the Rosemary Project site) and I-5 within Fresno County (approximately 14.5 miles west of the Rosemary Project site) (Fresno County 2024).

Fresno County General Plan

Numerous elements of the Fresno County General Plan incorporate scenic and visual considerations (Fresno County 2024). The following goals and policies pertain specifically to scenic and visual resources and are relevant to this analysis.

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.2: The County shall manage designated landscaped drives and adjacent land based on the following principles:

a. Maintenance and improvement of landscaped drives should be directed toward preserving and enhancing the quality of the landscape within the right-of-way. Where deemed necessary or desirable, the Board of Supervisors should, by resolution, assume responsibility for maintenance and improvement of landscaped drives.

b. Development of land adjoining landscaped drives should be planned and designed to preserve the quality and integrity of the roadside landscape.

PF-J.2: Gas and Electric Systems. The County shall work with local gas and electric utility companies to design and locate appropriate expansion of gas and electric systems, while minimizing impacts to agriculture and minimizing noise, electromagnetic, visual, and other impacts on existing and future residents.

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

OS-K.1: Scenic Resource Preservation. 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.

OS-K.4: Incorporating Scenic Features. 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.

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

OS-K.1 Scenic Roadway System. The County designates a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways.

3.2.3 Significance Criteria

A 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). If the project is in an urbanized area, would the project 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.

3.2.4 Direct and Indirect Effects

3.2.4.1 Applicant-Proposed Measures and Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. None of the APMs focuses on aesthetics.

PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to ensure public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the Standard Practices described in Section 2.6.7.3, *Aesthetics*, could reduce potential PG&E Project impacts on aesthetics.

3.2.4.2 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.

3.2.4.3 Direct and Indirect Effects of the Project

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

The Rosemary Project would not have a substantial adverse effect on a scenic vista. (*No Impact*) Because there are no designated scenic vistas within the viewshed of the Rosemary Project site, there would be **no impact** under criterion a).

PG&E Project

The PG&E Project would not have a substantial adverse effect on a scenic vista. (*No Impact*) Because there are no designated scenic vistas within the viewshed of the PG&E Project site, there would be **no impact** under criterion a).

Mitigation: None required.

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.

Rosemary Project

The Rosemary Project would not substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. (*No Impact*) Because the Rosemary Project site does not contain any natural scenic resources or historic structures and is not located within view of any designated or eligible state scenic highways, construction, operation, maintenance, and decommissioning of the Rosemary Project would have **no impact** on these visual resources under criterion b).

PG&E Project

The PG&E Project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. (*No Impact*) Because the PG&E Project site does not contain any natural scenic resources or historic structures and is not located within view of any designated or eligible state scenic highways, its implementation would have **no impact** on these visual resources under criterion b).

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

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

Public views of the Rosemary Project site and surroundings would be available along West Kamm Avenue, the only public paved roadway in the vicinity of the Project site. Limited views of the Rosemary Project site also would be available along the private, unpaved roads bordering the Rosemary Project site. Under existing conditions, open views of surrounding agricultural land dominate foreground views and views of the Diablo Range are available in the far distance in the background. Existing structures are minimally visible in the background from the western border of the Rosemary Project site looking east. Under existing conditions, the site consists of agricultural land with few structures, which include small signs at the corners of the site, a retention basin, the San Luis Drain, a small fence bordering the westernmost end of the San Luis Drain, a blue fire hydrant, and overhead transmission system facilities supported by wooden poles along the perimeter of the site. Representative views at the northern border of the Rosemary Project site via West Kamm Avenue at KOPs 1 and 2 are depicted in Figures 3.2-2 and 3.2-3. Views of the other portions of the site are presented in Figures 3.2-4 through 3.2-7.

The Rosemary Project site also consists of relatively unobstructed open views, which is ubiquitous in the study area. During construction, vehicle deliveries and the presence and use of materials and equipment associated with the construction of the Rosemary Project would change the visual character of the site. The addition of newly constructed features such as perimeter fences, solar arrays, and shared facilities consisting of an overhead and/or underground gen-tie line, a redundant communications line or microwave tower, operation and maintenance facilities, the ESS, and an on-site substation, to the extent that such components are erected during construction, would introduce new structures into the visual landscape. Overall, the proposed structures and facilities would be similar to other energy-related infrastructure located generally east and west of the site (including solar arrays and overhead transmission system facilities) under existing conditions. If a microwave tower is needed instead of a redundant communication line, it would be up to double the height of other utility poles in the region at 130 feet tall. Construction and decommissioning would entail the presence and use of vehicles and equipment, such as trucks, excavators, cranes, and tractors, among others described in Section 2.5.6.2, *Materials.* Vehicles and equipment also would be placed in on-site staging and laydown areas during the construction phase. It is estimated that 18 months would be required to complete the construction of the Rosemary Project. Decommissioning could take a similar amount of time. As discussed in the methodology section, the degree of a visual impact depends on the extent to which the visual change is noticeable, in conjunction with the site's visual receptors and their sensitivity. The key factors in determining the degree of visual change include visual contrast, project dominance, and view blockage. Overall visual sensitivity of motorists traveling along West Kamm Avenue near the Project site would be considered low to moderate. The duration of view would be brief for motorists traveling on these roadways. Construction of the Rosemary Project temporarily would result in a degree of adverse change to visual quality on the Project site; however, construction would not impair or block any sensitive or unique visual resources or landscapes such as the Diablo Range. Therefore, the overall degree of visual change that would result from construction of the Rosemary Project would be low to moderate. Accordingly, the visual impacts of Project construction would be considered adverse but not significant. For these reasons, the presence and

use of materials and equipment during construction and decommissioning of the Rosemary Project would not substantially degrade the existing visual character or quality of public views of the site. The impact would be **less than significant**.

Once operational, the Rosemary Project site would be occupied by solar arrays (i.e., photovoltaic [PV] modules arranged in rows) electrically connected to create a utility-scale solar PV generating facility. Each solar array would consist of PV solar modules supported by racking systems and a single-axis tracking system. The 15-acre ESS area would be occupied by regularly spaced battery units and electrical equipment pads. An approximately 3-acre Rosemary Project substation and an approximately 1.5-acre operation and maintenance area, including an office and adjacent warehouse, also would be located on site. New features include a redundant communications line or microwave tower of up to 130 feet in height. An underground direct current collector system, as well as an underground alternating current collector system, would be a part of the Rosemary Project, but not visible during the operation and maintenance period. Four different options for an overhead and/or underground gen-tie line are being considered. One or more on-site meteorological data collection systems, on-site telecommunication facilities, new gravel access roads, staging, laydown, and parking would also be developed for the Rosemary Project. Perimeter fencing is proposed to include an 8-foot-tall chain-link security fence. Access gates at proposed entrances would be the same height as the fence. All gates would be locked, and signs would be posted to inform of the presence of high-voltage equipment.

To help assess the degree of visual change to the Rosemary Project site and surrounding area, visual simulations of KOP 1 and KOP 2 are provided depicting existing representative views along with visual simulations of the Project from those KOPs, as described in Section 3.2.2. These KOPs were selected as representative public visual vantage points along West Kamm Avenue (the only paved, public roadway along the northern border of the Rosemary Project site) as experienced by motorists or residents, the main viewer groups in the study area. A Project-caused change in views at KOP 1 and KOP 2 would result in the most noticeable visual change to viewers.

Representative and Simulated Views from KOP 1

As depicted in **Figure 3.2-8**, *Representative and Simulated Views from KOP 1*, motorists traveling west along West Kamm Avenue may experience views similar to those depicted in KOP 1 at the northeastern edge of the Rosemary Project site. The viewing experience for motorists would be fleeting and generally limited based on the speed of travel. The view is open and expansive with fallowed, flat farmland and dry vegetation seen along the route. Green and blue hues shape the Diablo Range foothills beyond the distant mountains in the background view. Overhead transmission system facilities supported by wooden poles along the perimeter of the site can also be seen from this view. The existing PG&E Crescent Switching Station, a fertilizer manufacturer/supplier, and agricultural uses are directly east of this KOP along West Kamm Avenue but are not seen from this KOP.

The simulated view along westbound West Kamm Avenue at KOP 1, as seen in Figure 3.2-8, exhibits the shared facilities at the northeast corner of the Rosemary Project site. The shared facilities consist of a substation, battery ESS, and operation and maintenance facilities. The 3.0-acre on-site substation would include equipment up to 30 feet tall, support structures and riser equipment up to 65 feet tall, and a control building measuring 480 square feet and 25 feet tall. The substation will also include a redundant communications line or microwave tower. If a microwave tower is needed instead of a redundant



KOP 1 - Existing View
View from West Kamm Avenue looking southwest toward the proposed project site



KOP 1 - Simulated View
View from West Kamm Avenue looking southwest toward the proposed project site

2023/D202301423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.2-8
Representative and Simulated Views from KOP 1

ESA

communication line, it would be up to double the height of other utility poles in the region at 130 feet tall. The 65-foot support structures and riser equipment would match the height of the gen-tie line that would connect to the existing PG&E Crescent Switching Station, if constructed as an overhead line. The power would be delivered on poles that would be spaced approximately 200-500 feet apart. The battery ESS would occupy approximately 15 acres of the shared facilities site, adjacent to the proposed substation. ESS container dimensions would be 24.5 feet, 6 feet wide, 8 feet and 6 inches tall. The ESS area also would include electrical equipment pads with inverters and transformers, each measuring approximately 40 feet by 9 feet. The 1.5-acre operation and maintenance area would include a modular office-style building measuring 2,100 square feet, a metal-clad pole barn-style warehouse measuring approximately 3,000 square feet, and a parking lot with up to 10 spaces. Both buildings would be up to 25 feet tall. The additional built structures and facilities would be painted in a neutral color such as beige or grey and would not be visually distinctive. For motorists traveling along westbound West Kamm Avenue, visual sensitivity would be considered low to moderate as views would be fleeting (seen from highway speeds) and of limited duration. The overall visual change would be low to moderate, resulting in effects that would be visually adverse, but less than significant.

The overall low to moderate visual sensitivity and the overall low to moderate visual change posed by the Rosemary Project would be adverse, but not significant, as seen in the simulated view in Figure 3.2-8. The Rosemary Project's visual impacts from the perspective of KOP 1 would be **less than significant**.

Representative and Simulated Views from KOP 2

As depicted in **Figure 3.2-9**, *Representative and Simulated Views from KOP 2*, motorists traveling east along West Kamm Avenue may experience views similar to those depicted in KOP 2 at the northwestern edge of the Rosemary Project site. Motorists would be the primary viewer group at this KOP. The viewing experience for motorists would be fleeting and generally limited based on speed of travel. The view is open and expansive with fallowed, flat farmland, and dry vegetation. Views of the orchards adjacent to the west of the Rosemary Project site, a small sign posted on the northeastern corner of the site, as well as a small, short fence bordering the western end of the San Luis Drain that is bordering the northwestern corner of the site can be seen from this KOP. Agricultural fields are directly west of this KOP.

The simulated view of solar arrays, as seen in Figure 3.2-9, adds a narrow line of dark gray built features to the agricultural fields. Each row would have approximately 84 modules and would be separated from other rows by up to 25 feet. The PV modules would measure approximately 80 inches tall and 50 inches wide and would be made of anti-reflection technology. At their steepest angle, the PV modules would be up to 12 feet above the ground surface. With the low profile of these Rosemary Project components, the arrays would be barely visible and would not create a strong visual contrast. Viewer sensitivity would depend on the duration of view. For motorists traveling along eastbound along West Kamm Avenue, the views while passing solar arrays would be fleeting and partially blurred (depending on the speed of travel). Viewer sensitivity for motorists would be low to moderate.

As seen in the simulated view in Figure 3.2-9, the overall low to moderate visual sensitivity and the low to moderate visual change would conservatively result in impacts that would be adverse but not significant. Therefore, visual impacts associated with the Rosemary Project operation from the perspective of KOP 2 would be **less than significant**.

Mitigation: None required.



KOP 2 - Existing View
View from West Kamm Avenue looking southwest toward the proposed project site



KOP 2 - Simulated View
View from West Kamm Avenue looking southwest toward the proposed project site

2023/D202301423.00 - Rosemary Solar and Battery System Project/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.2-9
Representative and Simulated Views from KOP 2

Impact 3.2-2: The PG&E Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. (*Less-than-Significant Impact*)

Implementation of the PG&E Project would entail the presence and use of vehicles and equipment, such as line trucks, flatbed trucks, small cranes, rollers at each conductor's attachment point, pull sites and staging areas, and an equipment storage and laydown area. Work areas would consist of 75-foot-square areas for tubular steel poles (TSPs); 50-foot-square area for structures that are not TSPs and are more than 90 feet long; 30-foot area for guy structures, wood poles less than 90 feet long, and removal of existing structures; 40-foot by 200-foot pull sites; and an approximately 2 acre laydown area at a yet-to-be-determined location along the work corridor. The laydown area would be located adjacent to an existing improved road at least approximately 300 feet from the nearest sensitive receptor and 300 feet from a transportation corridor. Although construction and work areas would be located primarily in open areas, some vegetation removal, tree trimming, and matting or plating of drainage crossings, temporary fencing and temporary placement of gravel may be required for vehicle access. Other minor upgrades to Helm substation and Crescent switching station would occur within the existing facility boundaries. It is estimated that 18 months would be required to complete the construction of the PG&E Project. Overall, all work areas would have a temporary footprint on the surrounding area.

Reconductoring-related construction temporarily would result in a degree of adverse change to visual quality on the Project site; however, construction would not impair or block any sensitive or unique visual resources or landscapes and the overall degree of resulting visual change would be low to moderate. Visual impacts of reconductoring-related construction would be considered temporary and not significant. Therefore, the presence and use of materials and equipment during construction would not substantially degrade the existing visual character or quality of public views of the site. Construction associated with reconductoring and associated improvements would result in a **less-than-significant** impact.

Once reconductoring work is completed and the PG&E Project is operational, there would be no change relative to existing (baseline) conditions. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings once reconductoring is complete. The operation and maintenance phase would cause no impact relating to the creation of a substantial visual change. As previously mentioned, public views of the Project site and surroundings would be available along West Kamm Avenue, the only public paved roadway within the vicinity of the Project site. The PG&E Project consists of reconductoring the existing Helm–Crescent 70 kV electric transmission line and minor upgrades to Helm substation and Crescent switching station. Reconductoring activities would include replacing or improving existing poles, installing new conductor wires, completing related minor improvements within existing switching station and substation boundaries, and using equipment storage and laydown areas. PG&E would assess each of the existing 78 existing poles and, if necessary, would replace or upgrade them. New structures, if necessary, would be either tubular steel, light-duty steel, or wood poles. TSPs and light-duty steel poles are typically constructed using galvanized steel and are either a dull gray or treated to be similar in color to weathered wood poles consistent with PG&E's standard practice to use a non-reflective finish for poles to reduce the potential for new sources of glare. The PG&E Project, once operational, would be consistent with the existing character of the already existing transmission line and substations. The proposed poles and conductor wires would look very similar to the existing poles and wires along the PG&E Project corridor. Slight shifts in the locations of individual poles would not be anticipated to stand out in views. In addition, it is not likely that minor (10-15 foot) height increases at individual locations would result in a noticeable change in views of the landscape. Operations

and maintenance activities associated with the reconductored electrical line and potential PG&E substation and switching station modifications would cause **no impact**.

Mitigation: None required.

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.

Impact 3.2-3: The Rosemary Project would not create a new source of light or glare that would adversely affect day or nighttime views in the area. (*Less-than-Significant Impact*)

Lighting

Construction and decommissioning of the Rosemary Project would occur predominantly during daylight hours. Some nighttime activities may be required such as electrical connection, inspection, and testing. As described in Section 2.5.4, *Site Security and Lighting*, motion sensor or manually activated lighting would be installed as part of the Project. Lighting would only be implemented in areas where it is necessary for safety, security, and construction purposes. All lighting would be shielded and directed downward to minimize light trespass and illumination of the night sky or surrounding receptors beyond the Rosemary Project site. Also, there are very few receptors in the vicinity of the Project site that would be sensitive to light.

Because most of the Rosemary Project's construction and decommissioning would take place during daytime hours, all lighting necessary to complete required nighttime activities would be shielded and directed downward to limit light trespass and night sky illumination, and the lack of receptors, the Project would not create a new source of substantial light. Construction and decommissioning impacts related to criterion d) would be **less than significant**.

The Rosemary Project's operation and maintenance phase impacts relating to criterion d) also would be less than significant. Consistent with local design requirements, the Rosemary Project would use the minimal amount of lighting required for safety, a security lighting system that would be motion activated (rather than timed to remain on from dusk to dawn), and shielded or directing lighting downward to minimize light trespass of the site, including on nighttime skies. Visual impacts related to added operational lighting would be **less than significant**.

Glare

Construction would entail increased vehicular traffic and the presence, use, and transport of construction equipment and materials. Conditions of temporary glare could occur associated with an increased presence of reflective materials on the construction site, including from excavators' windows and other equipment. The temporary sources of glare would not be in fixed locations during construction since the equipment would be used and moved according to scheduled construction or decommissioning activities required throughout the site. Although temporary sources of glare would be added during construction and decommissioning, the potential for reflective materials and equipment to cause glare would be limited and temporary. Also, there are very few permanent receptors in the vicinity of the Rosemary Project site that would be sensitive to glare. Most of the receptors would be motorists passing by and experience the site with fleeting views. Therefore, impacts associated with glare during construction and decommissioning would be **less than significant**.

Once constructed and in use, the reflection of sunlight off the surfaces of solar panels would be the primary source of potential glare from the Project and motorists would be the primary viewer group. Secondarily, metallic structures could reflect glare, depending on the angle of view. Solar panels are constituted of many solar cells which are designed to capture solar energy in order to convert it into usable energy, with 2 percent of incoming sunlight reflected back into the sky (MDER 2015). Therefore, solar panels are designed to be as light-absorptive as possible to maximize the efficiency of energy production. When compared to common reflective surfaces, solar panels are found to produce around the same amount of reflectivity as water, which is about half the amount of reflectivity as standard glass that is commonly used in residential or commercial applications (Shields 2010). Additionally, any residual light reflected from the PV panels would travel above the line of sight of most receptors. PV panel tracking systems would position the arrays so that the sun's rays are perpendicular to the face of the panel. During midday conditions, light would be reflected upward toward the sky. The maximum downward angle of the panels would not be below 30 degrees. Therefore, residual light reflected from the panel (approximately 2 percent) would be reflected back toward the sun. Therefore, even when the sun angle is low, the reflected sunlight would be directed away from ground-level receptors and motorists along local roads. Additionally, due to the distance between the Project site and the nearest airport (the Harris Ranch Airport, located approximately 19 miles to the south), the angle from which pilots could view the site, and the minimal amount of reflected sunlight returned to the sky, the Rosemary Project is not expected to adversely affect the vision of pilots during takeoff and landing, or in flight.

Structural supports for the solar arrays would likely be metallic and, as such, could transmit glare to the viewer, depending on the angle of view. These structures would be appropriately spaced and not be located perpendicular to any active road alignments, so it is unlikely that vehicle lights would reflect a substantial amount of glare off of these structures. The energy storage system, operation and maintenance building, and prefabricated control services buildings would be set back away from any roadways and would be painted with a finish and color such that glare would not be a prominent concern for these structures. If the gen-tie, redundant communications lines, or other supporting infrastructure will use metallic poles, they will have a non-reflective finish to prevent the creation of any additional glare. Visual effects related to glare from the Rosemary Project would not be substantial. Associated impacts during operation would be **less than significant**.

Mitigation: None required.

Impact 3.2-4: The PG&E Project would not create a new source of light or glare that would adversely affect day or nighttime views in the area. (*Less-than-Significant Impact*)

Lighting

Construction of the PG&E Project would occur predominantly during daylight hours. Sensitive receptors would be limited to motorists on public roadways crossing the reconductoring alignment and a residence near the alignment's northern terminus. In the case that temporary nighttime lighting is required for construction, PG&E would implement standard practices to minimize adverse effects related to construction lighting. PG&E would focus temporary nighttime lighting on work areas and direct the lighting on-site to minimize potential light trespass or glare with respect to areas outside the work area, per PG&E standard practices and measures. Because most of the PG&E Project's construction would take place during daytime hours, any needed temporary lighting necessary to complete potential nighttime

activities would be directed on-site, and the lack of sensitive receptors, the Project would not create a new source of substantial light. Construction impacts related to criterion d) would be **less than significant**.

Because infrastructure within the PG&E Project corridor and substations would be the same from a lighting perspective as exiting (baseline) conditions, the PG&E Project would have **no impact** relating to criterion d) once reconductoring activities are complete.

Glare

Reconductoring-related construction would entail increased vehicular traffic and the presence, use, and transport of construction equipment and materials. Sensitive receptors would be limited to motorists on public roadways crossing the reconductoring alignment and a residence near the alignment's northern terminus. Conditions of temporary glare could occur associated with an increased presence of reflective materials on the construction site. However, the temporary sources of glare would not be in fixed locations during construction since the equipment would be used and moved according to the scheduled construction or decommissioning activities required along the corridor. In addition, PG&E would implement standard practices to minimize the adverse effects related to glare. According to PG&E's Standard Practices, PG&E would use non-specular conductor and non-reflective finish for the poles to reduce the potential for new sources of glare. Although temporary sources of glare would be added during construction, the reflective materials and equipment would not remain on the site following this phase and fixed structures would have non-reflective finishes. Therefore, impacts associated with glare would be **less than significant**.

Because infrastructure within the PG&E Project corridor (including the substation and switching station) would be substantially the same from a glare perspective as exiting (baseline) conditions, the PG&E Project would have **no impact** relating to criterion d) once reconductoring activities are complete.

Mitigation: None required.

3.2.4.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.2-1**, *Summary of Project Impacts on Aesthetics*, summarizes the impacts of the Project as a whole on aesthetics.

TABLE 3.2-1
SUMMARY OF PROJECT IMPACTS ON AESTHETICS

Significance criteria: Except as provided in Public Resources Code Section 21099, would the Project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Significance criteria: Except as provided in Public Resources Code Section 21099, would the Project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

3.2.5 Cumulative Effects

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

As analyzed in Section 3.2.4.3, *Direct and Indirect Effects of the Project*, the Rosemary Project and the PG&E Project each would have no impact due to a substantial adverse effect on a scenic vista. Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any cumulative effect related to criterion a).

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.

As analyzed in Section 3.2.4.3, *Direct and Indirect Effects of the Project*, the Project (including the Rosemary Solar Project and the PG&E Project) would have no impact due to substantial damage scenic resources within a state scenic highway. Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any cumulative effect related to criterion b).

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

Impact 3.2-1c: The Rosemary Project would not cause or contribute to any cumulative effect related to the degradation of the existing visual character or quality of public views of the site and its surroundings. (*Less-than-Significant Impact*)

The geographic scope of potential cumulative effects to the existing visual character or quality of public views includes the viewshed along West Kamm Avenue. Although Section 3.2.2.1, *Study Area*, explains that views generally become indistinct to the naked eye at a distance of 2 miles, this cumulative analysis conservatively considers the potential for the incremental impacts of the Project to combine with the incremental impacts of other projects located within 3 miles of the Project site. More distant projects would not be visible within the same viewshed as the Project. Section 3.1.3.2, *Cumulative Effects Analysis*,

contains a list of the projects considered as part of the cumulative scenario. The Rosemary Project would contribute to cumulative visual resources conditions starting when project infrastructure is brought to the Project site and concluding when decommissioning and site restoration is complete.

Cumulative effects could occur if the Rosemary Project contributes visual changes to the viewshed that are noticeable to the public, either from the same observation point or as a noticeable element in a cumulative viewing experience. Numerous solar facilities are in various stages of construction or operation throughout southwestern Fresno County; however, the only solar facilities located within a 3-mile radius of the Rosemary Project site are the San Joaquin Solar project (located approximately 1 mile east of the Project site) and the Stroud Solar Station (located approximately 2.5 miles east of the Project site). Because the site is not considered visually sensitive or scenic in character, the introduction of another solar energy facility such as the Rosemary Project would not substantially degrade the existing quality of public views or the visual character of the surroundings, even though it may affect viewers' perception of land use in the area. Additionally, both projects are already operational and would not add the temporary presence of construction equipment or related materials. Further, the Rosemary Project's location tends to isolate it geographically from other solar PV installations in southwestern Fresno County and the Central Valley in general and other cumulative projects would not cause incremental impacts that would combine with those of the Rosemary Project to cause or contribute to significant adverse cumulative visual landscape changes. The Rosemary Project's cumulative effect relating to criterion c) would be **less than significant**.

Mitigation: None required.

Impact 3.2-2c: The PG&E Project would not cause or contribute to any cumulative effect related to the degradation of the existing visual character or quality of public views of the site and its surroundings. (*Less-than-Significant Impact*)

The PG&E Project would contribute a temporary, limited, adverse incremental impact during the construction phase that, combined with the incremental impacts of other projects within 3 miles of the PG&E Project site, would not cause or contribute to any significant adverse cumulative effect related to degradation of the existing visual character or quality of public views of the site and its surroundings. The cumulative effect during this limited timeframe would be **less than significant**. Because the PG&E Project would have no impact related to criterion c) once the work is completed, it would not cause or contribute to any cumulative effects after that time. Operation and maintenance of the PG&E Project would have no cumulative effect.

Mitigation: None required.

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.

Impact 3.2-3c: The Rosemary Project would not cause or contribute to any cumulative effect related to a new source of light and glare which would adversely affect day or nighttime views in the area. (*Less-than-Significant Impact*)

As previously stated, projects located 3 or more miles away from the Rosemary Project site would not be visible within the same viewshed as the Project. The only projects within this radius from the Project site would be at least 1 mile away from the Project site. Cumulative effects could occur if the Rosemary Project contributes visual reflective glare or additional lighting to the viewshed that are noticeable to the public, either from the same observation point or as a noticeable element in a cumulative viewing experience. As stated above, visual effects related to a new light source and glare from the solar facility and shared facilities would not be substantial, would be far from the other projects within the 3-mile radius, and lack sensitive receptors. Therefore, the cumulative projects would not contribute to added lighting and glare associated with other cumulative projects located in proximity to the Rosemary Project site. The Rosemary Project's incremental contribution to the light and glare effects of cumulative projects would be **less than significant**.

Mitigation: None required.

Impact 3.2-4c: The PG&E Project would not cause or contribute to a significant cumulative effect due to the creation of a new source of light or glare that would adversely affect day or nighttime views in the area. (*Less-than-Significant Impact*)

The PG&E Project would not cause or contribute to any cumulative effect related to a new source of light and glare which would adversely affect day or nighttime views in the area. (*No Impact*)

As mentioned above, the only projects within a 3-mile radius of the Project are already operational and there are very few sensitive receptors within that radius. The PG&E Project could create a new source of light and glare throughout the construction phase, but that incremental impact would not combine with other projects in the cumulative scenario to cause a significant adverse cumulative effect. The PG&E Project's cumulative effect during the reconductoring phase would be **less than significant** relating to lighting and glare.

Because the PG&E Project, once operational, would cause no impact relating to light or glare, it would not cause or contribute to any significant impact relating to criterion d). The PG&E Project would have no cumulative effect related to criterion d) once reconductoring is complete.

Mitigation: None required.

3.2.6 References

Caltrans (California Department of Transportation). 2012. *Scenic Highway Guidelines*. Available: https://www.cahighways.org/caltrans-resources/scenic/120412-scenic_highway_guidelines.pdf. Accessed March 11, 2025.

Fresno County. 2024. *Fresno County General Plan*. Final. February 2024. Available: https://www.fresnocountyca.gov/files/sharedassets/county/v/1/public-works-and-planning/development-services/planning-and-land-use/general-plan/fcgpr_general-plan_county_final_2024_02.pdf. Accessed March 7, 2025.

MDER (Massachusetts Department of Energy Resources). 2015. *Clean Energy Results, Questions & Answers, Ground-Mounted Solar Photovoltaic Systems.* June.

Shields, M. 2010. PV Systems: Low Levels of Glare and Reflectance vs. Surrounding Environment.

3.3 Agriculture and Forestry Resources

This section identifies and evaluates issues related to agriculture and forestry resources, including designated categories of farmland, agricultural zoning and Williamson Act contracts, and forestry resources. The 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 regarding agriculture and forestry resources (**Appendix A**, *Scoping Report*).

This analysis is based in part on a Project-specific Land Evaluation and Site Assessment (LESA) prepared for the Rosemary Project (**Appendix D**). The preparers of this Draft EIR independently reviewed the LESA (and other materials prepared by or on behalf of the Applicant) and determined it to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR.

3.3.1 Setting

3.3.1.1 Study Area

The study area for this analysis of 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 Farmland Mapping and Monitoring Program [FMMP] of the California Resources Agency), and forest land and timberland within the County that meets the definitions provided below. For purposes of the LESA modeling, the study area includes the Project's zone of influence (ZOI), which is defined to include the Project site and the surrounding 0.25-mile area. The Project's ZOI includes 5,125.2 acres, as described below.

3.3.1.2 Environmental Setting

Agricultural Resources

As discussed in Section 2.3.1.1, *Rosemary Project Site,* the Rosemary Project site is currently used for dryland farming. The site has not been irrigated for at least 20 years. The site includes unvegetated areas including roads (paved and unpaved), canals and agricultural ditches, and multiple out-of-service wells. The parcels that make up the Rosemary Project are primarily owned by Westlands Water District (WWD), private landowners, and the U.S. Bureau of Reclamation (Reclamation). As stated in Section 2.3.1.2, *PG&E Project Site*, the PG&E Project site is currently used for energy-related purposes, including the existing Helm–Crescent 70 kV transmission line. The PG&E Project would occur on land owned by PG&E and on private land subject to existing rights-of-way that allow the existing electrical line to cross the privately owned parcels.

The Rosemary Project site is mapped as Farmland of Local Importance under the California Department of Conservation's FMMP (CDOC 2025a). **Figure 3.3-1**, *Important Farmland*, depicts the FMMP-mapped farmland within the study area. The Rosemary Project site is adjacent to parcels mapped as Farmland of Local Importance and Farmland of Statewide Importance. Of the 5,125.2 acres in the Project's ZOI there are 3,872.7 acres of agricultural use, including 2,486.3 acres of Farmland of Local Importance and 1,386.4 acres of Farmland of Statewide Importance. The remaining acreage consists of either the *Vacant or Disturbed Land* or *Nonagricultural or Natural Vegetation* categories (**Appendix D**). The PG&E Project alignment

is located on lands designated by the FMMP as Prime Farmland, Nonagricultural or Natural Vegetation, and Farmland of Statewide Importance.

None of the parcels that comprise the Rosemary Project site are subject to a Williamson Act contract (defined below in Section 3.3.1.3, *Regulatory Setting*). However, nonprime Williamson Act-contracted parcels are found adjacent to the Rosemary Project site in the Project's ZOI, as depicted in **Figure 3.3-2**, *Williamson Act-contract Lands*. The Rosemary Project site is mapped within the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zoning district (Fresno County 2024a). The PG&E Project alignment is located on land that is subject to a Williamson Act contract and is also mapped within the AE-20 zone district.

As described in Section 2.3.2, *Surrounding Land Uses*, the Project site is generally surrounded by existing agricultural uses. Land uses to the north, east, and south of the Project site primarily consist of undeveloped active and/or fallowed agricultural lands. West of the Project site, agricultural land use expands to include orchards. Multiple solar energy facilities are operating or under development in the area surrounding the Project site, including the San Joaquin Solar Project, the Griffen Solar Farm, and PG&E's Stroud Solar Station.

Forestry Resources

Nearly all of the lands available for timber production in Fresno County reside within the southern region of the Sierra Nevada National Forest as well as the northern portion of the Sequoia National Forest (Fresno County 2024b). These forests are located more than 55 miles from the Project site. The Project site does not contain any land defined as 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]).

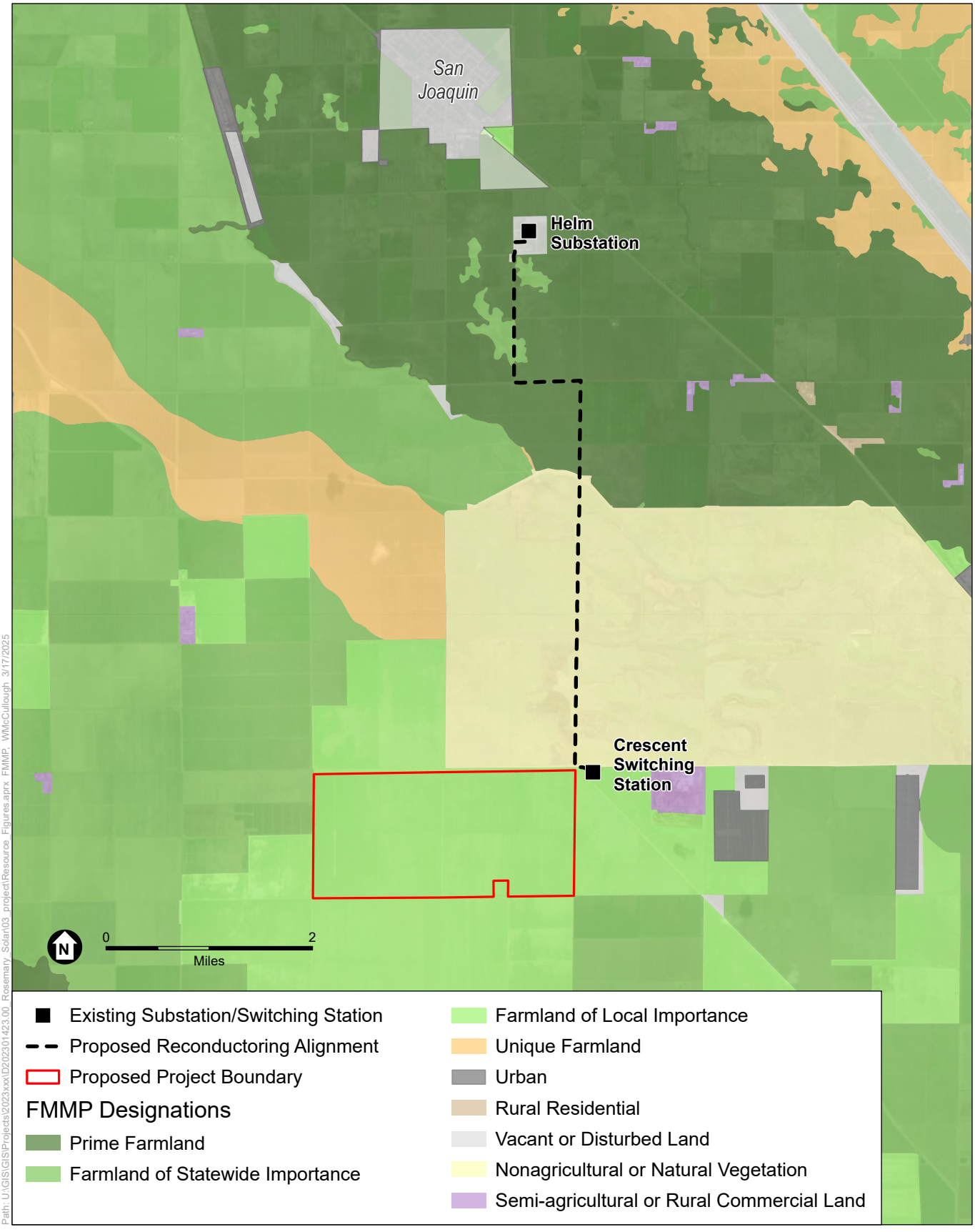
3.3.1.3 Regulatory Setting

Federal

Sagouspe Settlement Agreement with the U.S. Bureau of Reclamation

To provide water to the west side of the San Joaquin Valley, Reclamation, and the State of California reached an agreement in 1961 for the federal government to construct the San Luis Unit of the Central Valley Project. The WWD is located within the San Luis Unit. As part of the agreement, Congress's authorizing legislation directed Reclamation to collect and dispose of drainage water to address issues associated with poor drainage and disposal of irrigation water in the affected area (WWD 2011).

Reclamation began delivering water to the WWD in 1967. Construction of the water conveyance (drainage) improvements began in 1968 and ended prematurely in 1975 at the Kesterson Reservoir, after only 80 miles of the planned 207 miles of the proposed drainage infrastructure had been completed (Congressional Research Service 2015). In 1983, studies identifying deformity and mortality of waterfowl nesting at the Kesterson Reservoir suggested that these impacts were caused by selenium-laden water coming from soils within the WWD. Reclamation closed the Kesterson Reservoir, capped the drains, and has not provided drainage within the WWD since June 1986. Litigation ensued. *Firebaugh Canal Co. v. United States*, Case No. CV-F-88-634 (E.D. Cal.); *Sumner Peck Ranch, Inc. v. Bureau of Reclamation*, Case No. CV-F-91-048 (E.D. Cal.); *Firebaugh Canal Co. v. United States* (9th Cir. 2000) 203 F.3d 568, 571; *Sagouspe* et al. vs. *Westlands Water District* et al. Case No. F-01-6342 OWWLIO.



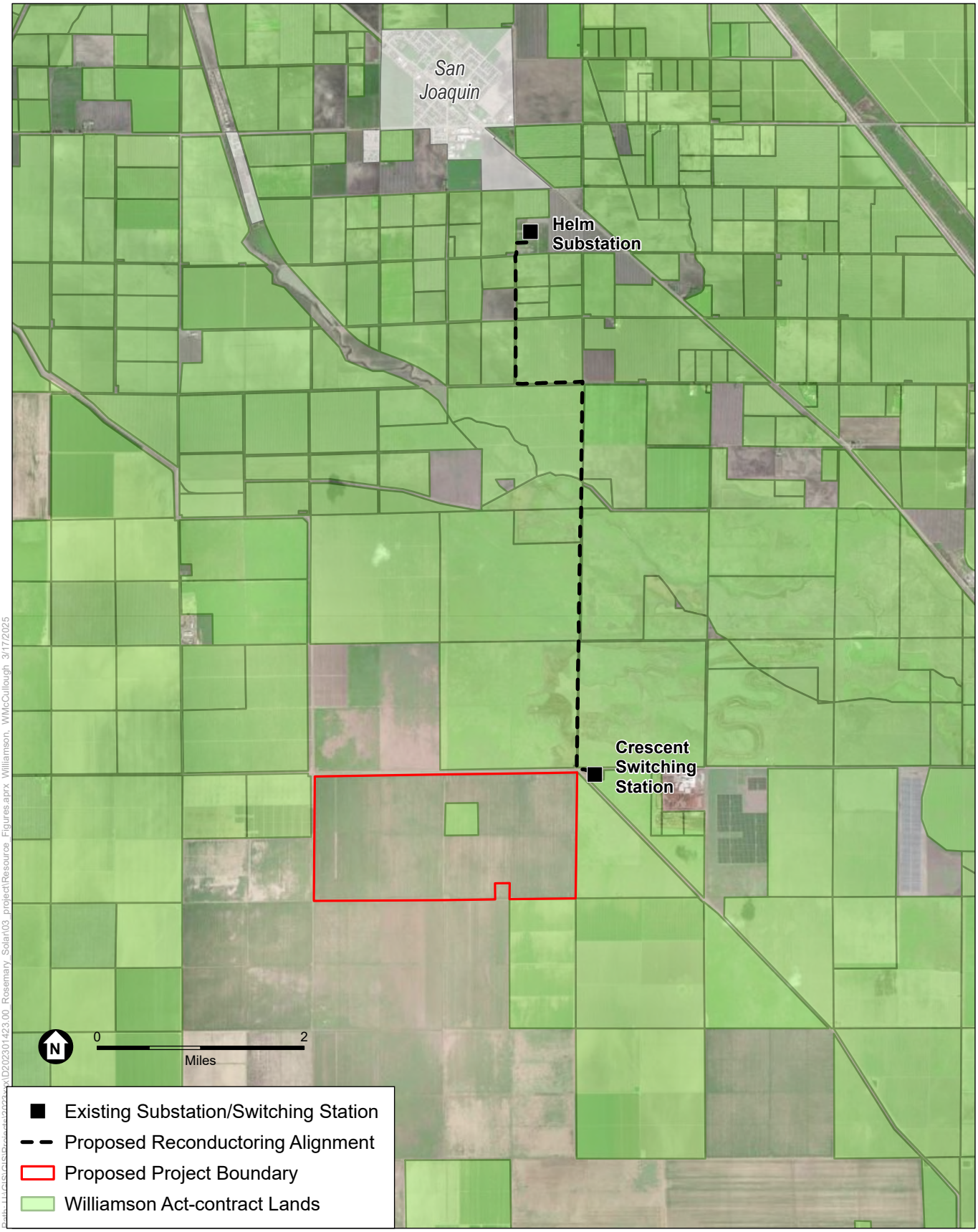
Path: U:\GIS\GIS\Projects\2023xxx\D2023011423.00_Rosemary_Solar\03_project\Resource_Figures.aprx FMMP_WMcCullough 3/17/2025

Source: ESA, 2025; CDOC, 2022

Rosemary Solar and Energy Storage System Complex

Figure 3.3-1
Important Farmland

ESA



Source: ESA, 2025; CDOC, 2023

Rosemary Solar and Energy Storage System Complex

Figure 3.3-2
Williamson Act-contract Lands

ESA

In late 2002, Reclamation, WWD, and approximately 100 landowners within the WWD agreed to settle the claims. The Sagouspe settlement agreement resolved claims relating to approximately 45,586 acres. The federal government's September 16, 2015, Notice of Filing of Settlement Agreement in the matter includes a List of Lands Permanently Retired from Irrigated Agriculture. Irrigation is precluded on 25 of the WWD-owned parcels that make up the Rosemary Project site. See **Figure 3.3-3**, *Sagouspe Settlement Agreement Lands within the Rosemary Project Site*.

State

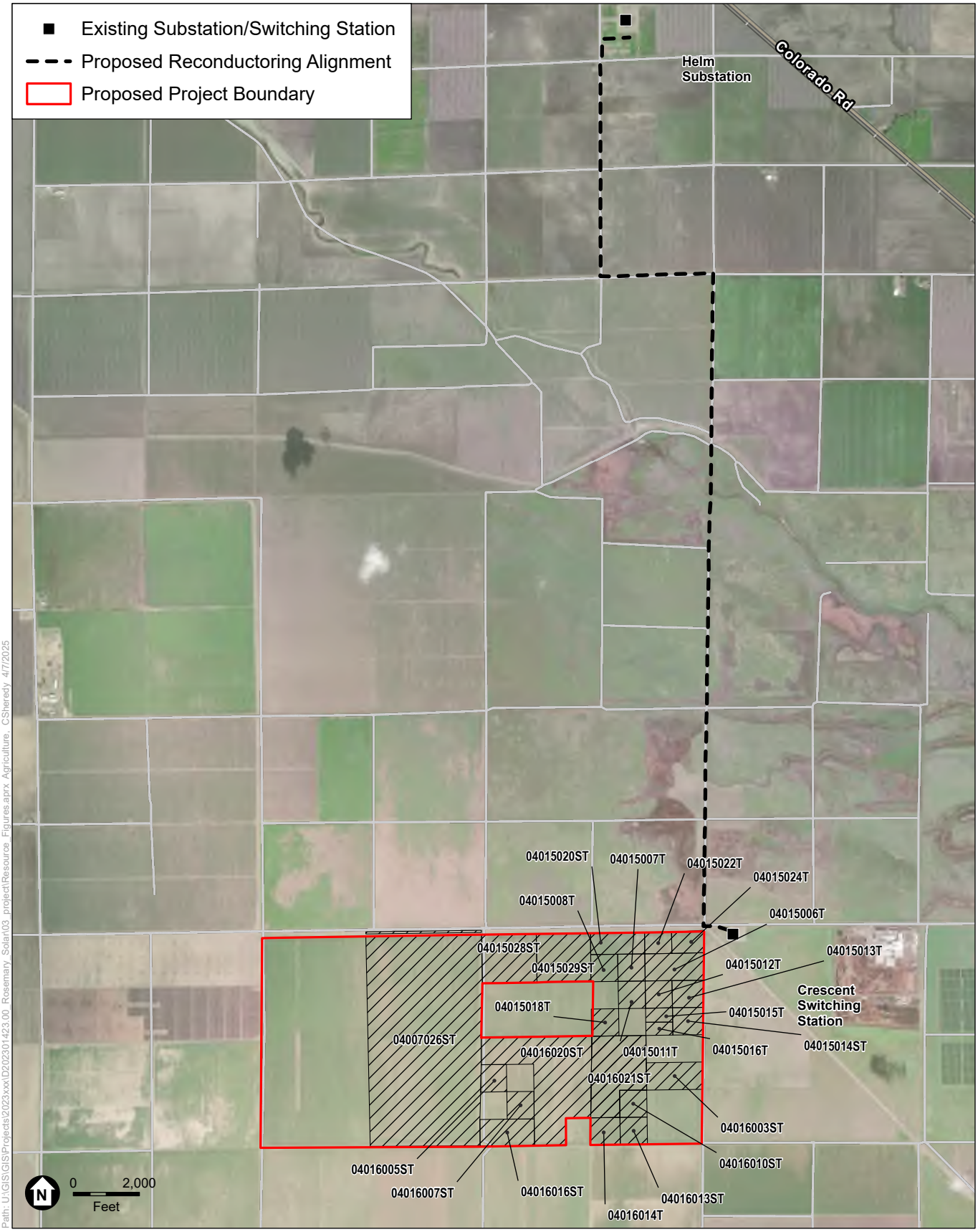
California Farmland Mapping and Monitoring Program

The California Department of Conservation's FMMP provides a classification system for farmland based on technical soil ratings and current land use (CDOC 2025b). The minimum land use mapping unit is 10 acres unless specified; smaller units of land are incorporated into the surrounding map classifications.

For the purposes of this environmental analysis, the term *Farmland* refers to FMMP map categories *Prime Farmland*, *Unique Farmland*, and *Farmland of Statewide Importance* (hereafter collectively referred to as *Farmland*). Typically, the conversion of land from one of these categories to a lesser quality category or to non-agricultural use is considered an adverse impact. These map categories are defined as follows (CDOC 2025b):

> ***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 four years prior to the mapping date.
>
> ***Unique Farmland*:** Farmland of less 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 four 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 four years prior to the mapping date.

An additional FMMP category, Farmland of Local Importance, is either currently producing or has the capability of production, but it does not meet the criteria of Prime, Statewide, or Unique Farmland. In Fresno County, Farmland of Local Importance is defined as all farmable lands within Fresno County that do not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock and dairy, poultry facilities, aquaculture, and grazing land (CDOC 2025b). Public Resources Code Section 21060.1 does not include Farmland of Local Importance in its definition of *agriculture*. *Other Land* is land that is not included in any other mapping category. The Rural Land Mapping project provides more detail on the distribution of various land uses within the Other Land category and establishes Rural Land Mapping Categories, including *Nonagricultural or Natural Vegetation* (CDOC 2025c). This category includes heavily wooded, rocky/barren areas, riparian and wetland areas, or grassland areas which do not qualify as Grazing Land either because of their size or land management restrictions. Nonagricultural or Natural Vegetation also includes constructed wetlands, small water bodies, and recreational water ski lakes.



Path: U:\GIS\GIS\Projects\2023xxx\D2023011423.00_Rosemary_Solar\03_project\Resource_Figures.aprx Agriculture_CSheredy 4/7/2025

Source: Fresno County, 2025; ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 3.3-3
Sagouspe Settlement Agreement Lands within the Rosemary Project Site

ESA

California Government Code

Chapter 6.7 of the California Government Code (Sections 51100–51155) regulates the state's timberlands. Section 51104(g) of the Government Code defines *timberland production zone* as an area that has been zoned pursuant to Section 51112 or Section 51113 and is devoted to and used for growing and harvest timber, or for growing and harvesting timber and compatible uses. *Compatible uses* include any use that "does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber" (Government Code Section 51104[h]). In regard to the general plans of cities and counties, *timberland preserve zone* means "timberland production zone."

California Land Conservation Act of 1965

The California Land Conservation Act of 1965 (Government Code Section 51200 et seq.) is commonly referred to as the *Williamson Act*. The Act is the state's primary program for preserving open spaces and agricultural land. It allows private landowners to contract with counties and cities to voluntarily restrict their land to agricultural and compatible open spaces uses and, in return, offers tax incentives and reduced property taxes to the landowners. As opposed to assessments based on full market value, the land is assessed for retained farming and open space uses. Contracts typically have a 10-year period and are automatically renewed each year 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.

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.*

California Public Resources Code

The California Public Resources Code governs forests, forestry, and forest resources, as well as range and forage lands, within the state. 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 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."

California Farmland Conservancy Program of 1996

The California Department of Conservation's Division of Land Resource Protection administers the California Farmland Conservancy Program, a state-level program that widens the spectrum of agricultural land conservation options through the use of permanent agricultural conservation easements. The program aims to protect and conserve agricultural land by administering the permanent agricultural conservation

easements, providing a funding mechanism, and administering related technical assistance grant support for agricultural protection (CDOC 2024).

California Public Utilities Commission General Order No. 131-E

The California Public Utilities Commission (CPUC) would have jurisdiction over the construction, operation, and maintenance of the PG&E Project because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. State law preempts local jurisdictions from using their local land use authority to regulate electric facilities constructed by public utilities such as PG&E.

Local

Fresno County Solar Facility Guidelines

The Fresno County Solar Facility Guidelines were adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017 (Fresno County 2017). To balance the need to support new renewable energy projects while protecting important farmlands and minimizing the impacts on existing agricultural operations, the County's approach to evaluating solar facilities includes flexible general guidelines rather than specific standards. Multiple provisions of the Solar Facility Guidelines are relevant to the analysis of potential impacts on agricultural resources. Guidelines specific to agricultural resources include the following:

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; and
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 and County General Plan Policy LU-A.15 (described below), the Applicant would be required to record such a notice prior to the County's issuance of permits for the Project. See **Appendix K2**, *Consistency with Fresno County's Solar Facility Guidelines,* for additional details.

Fresno County General Plan

The Agriculture and Land Use Element of the Fresno County General Plan (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's 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. See Section 3.12, *Land Use and Planning*, and **Appendix K1**, *Consistency with Fresno County General Plan*, for additional details about the General Plan and the Project. The following goals, policies, and program related to agriculture are applicable to the analysis of impacts on agricultural resources (Fresno County 2024b):

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 Agricultural Land Conservation: 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 or can be provided consistent with the adopted General or Community Plan.

Policy LU-A.2 Agriculture-related Uses: 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.

Policy LU-A.3 Special Agricultural Uses: 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. 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;

Criteria (e) through (h) relate to the approval of commercial centers, value-added agricultural processing facilities, churches, schools and existing commercial uses and are not applicable to the Project.

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

Policy LU-A.13 Agricultural Buffers: The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations. Additionally, the County shall consider buffers between agricultural uses and proposed sensitive receptors when processing discretionary land use applications.

Policy LU-A.14 Agricultural Land Conversion Review: 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.15, Right to Farm Notice: The County shall generally condition discretionary permits for development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice, which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.

Policy LU-A.16*: *Agricultural Land Preservation Programs. The County should implement agricultural land preservation programs for long-term conservation of viable agricultural operations. Examples of programs to be considered include: land trusts; conservation easements; dedication incentives; new and continued Williamson Act contracts; Farmland Security Act contracts; the California Farmland Conservancy Program; 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*: *Williamson Act Contracts. The County should accept Williamson Act contracts on all designated agricultural land subject to location, acreage, and use limitations established by the County provided that the County receives full subvention payment as partial replacement of local property tax revenue foregone as a result of participating in the Williamson Act program. All development and uses and activities that occur on land under contract shall comply with the requirements of the California Land Conservation Act and adopted County Rules.

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

Policy LU-A.19*: *Reduced Soil Erosion. 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 [University of California] Cooperative Extension, and other agencies and organizations.

> *Implementation 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 mapped within the AE-20 zoning district. According to Section 816.1 of the Fresno County Zoning Code, permitted uses in AE districts include raising livestock, poultry, and plant crops, as well as single-family residences, accessory and farm buildings, and other agricultural and home occupation uses (Fresno County 2024a). County permits would be needed for the Rosemary Project, including an unclassified Conditional Use Permit (CUP) to authorize the discretionary development of a solar facility on lands within an AE-20 zone. The Unclassified CUP process allows the County to consider uses that would be essential or desirable, but that are not allowed as a matter of right within a zoning district. Photovoltaic solar power generation and public utility facilities may be conditionally permitted in the AE-20 zoning district with the issuance of a CUP. See Section 3.12, *Land Use and Planning*, for additional details about the Project site's zoning.

3.3.2 Significance Criteria

A project would result in significant impacts on 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 Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);

d) Result in the loss of forest land or conversion of forest land to non-forest use; 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.1, *Minimization of Impacts on Neighboring Agricultural Operations*, related to establishing 50-foot setbacks from existing adjacent neighboring agricultural operations, and Section 2.5.9.2, *Erosion and Sediment Control Measures*, related to erosion and sediment control measures during construction and operation and maintenance, could reduce potential Rosemary Project impacts on agriculture and forestry resources.

Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the Standard Practices are relevant to potential PG&E Project impacts on agriculture and forestry resources.

3.3.3.2 Methodology

Examples of direct effects on agricultural resources include the conversion of agricultural lands to non-agricultural uses and conflicts with existing zoning or agricultural conservation contracts or easements. Indirect effects may include nuisances or other physical changes that result in the conversion to non-agricultural use or degradation of off-site agricultural lands. In determining whether impacts to agricultural resources are significant environmental effects, the County has considered and relied on the results of Project-specific LESA modeling (**Appendix D**), site-specific zoning for Fresno County, and available mapping pursuant to the FMMP.

A direct effect on forestry resources could include the conversion of forested lands to non-forest use, while indirect effects could include conflicts with existing zoning for, or cause rezoning of, forest land or timberland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, the County has considered site zoning, site-specific environmental characteristics, and applicable definitions set forth in state law.

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.

Rosemary Project

The Rosemary Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP, to non-agricultural use. (*No Impact*)

The Department of Conservation defines the *conversion* of agricultural land as "a permanent reduction in the State's agricultural land resources" (CDOC 2025d). As described in Section 3.3.1.2, *Environmental Setting,* there is no Farmland within the Rosemary Project site boundary, as shown on the maps prepared pursuant to the FMMP. Therefore, construction, operation, maintenance, and decommissioning of the Rosemary Project would not convert mapped Farmland to a non-agricultural use and **no impact** would result under criterion a).

Mitigation: None required.

PG&E Project

The PG&E Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP, to non-agricultural use. (*No Impact*)

As described in Section 3.3.1.2, *Environmental Setting,* there is Prime Farmland and Farmland of Statewide Importance mapped within the PG&E Project alignment, as shown on the maps prepared pursuant to the FMMP. However, reconductoring would occur along the existing Helm–Crescent 70 kV electric transmission line alignment and within existing PG&E facility boundaries; therefore, it would not

convert Prime Farmland or Farmland of Statewide Importance or cause a permanent reduction in the state's agricultural resources. The PG&E Project would take place on lands primarily owned by private landowners and PG&E; however, as stated in Section 3.3.1, PG&E has an existing right-of-way for the existing electrical line across the privately owned parcels. As discussed in Section 2.6, *Description of the PG&E Project*, the reconductoring component of the Project would involve the replacement or improvement of existing poles and the installation of new conductor wires where needed to improve reliability and help ensure compliance with CPUC General Order 95, ground-to-conductor clearance requirements, as well as minor improvements to the existing PG&E Helm substation and/or Crescent Switching Station, within those existing facility boundaries. Maintenance activities of the reconductored line would not change from PG&E current measures. As described in Section 2.6.3, *Work Areas*, the PG&E work would occur within the existing PG&E right-of-way or within *franchise areas*, which include public streets, roads, highways and other public ways and places where PG&E has a legal right to occupy. Existing agricultural operations surrounding PG&E's reconductoring area would continue uninterrupted. While the transmission line portion of the PG&E Project contains Farmland mapped by the FMMP, the current use is compatible with existing agricultural operations and this condition would not change with implementation of the PG&E Project. Therefore, construction, operation, and maintenance of the PG&E Project would not convert mapped Farmland to a non-agricultural use and **no impact** would result under criterion a).

Mitigation: None required.

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

Rosemary Project

The Rosemary Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract. *(No Impact)*

The Rosemary Project site is located within the AE-20 zoning district. The AE district is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. The proposed uses may be permitted in any zone district, including AE-20, subject to consideration and approval by the 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. The proposed use may be allowed by discretionary approval of an unclassified CUP on agricultural land, in conformance with Fresno County Zoning Code Section 853(B). Therefore, the current zoning of the Rosemary Project site (AE-20) would remain unchanged if the Project were approved and there would be no conflict with agricultural zoning. The Rosemary Project is not located on lands subject to a Williamson Act contract; therefore, it would not conflict with one. Because the Rosemary Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract, it would cause **no impact** with respect to significance criterion b).

Mitigation: None required.

PG&E Project

The PG&E Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract. *(No Impact)*

The PG&E Project site is located within the AE-20 zoning district and on lands subject to a Williamson Act contract. As described above and in Section 2.6.3, *Work Areas*, the PG&E Project work would occur within the existing PG&E right-of-way or within franchise areas, including public streets, roads, highways and other public ways and places where PG&E has a legal right to occupy. No new land rights would need to be acquired by PG&E for the reconductoring activities, which include the replacement or improvement of existing poles, the installation of new conductor wires, and minor improvements to the existing PG&E Helm Substation and/or Crescent Switching Station, within those existing facility boundaries. The PG&E Project site is currently used for energy-related uses and this condition would not change with the implementation of the PG&E Project. Therefore, the PG&E Project would entail improvements to electric facilities and, as such, would be compatible with existing Williamson Act contracts pursuant to Government Code Section 51238(a). As explained in Section3.3.1.3, *Regulatory Setting*, CPUC General Order No. 131-E preempts local jurisdictions such as the County from using their local land use authority to regulate electric facilities constructed by public utilities such as PG&E. The current zoning of the Project site (AE-20) would remain unchanged if the PG&E Project were approved and there would be no conflict with agricultural zoning. Because all reconductoring work would occur within existing facility boundaries and the existing PG&E right-of-way or franchise areas, the PG&E Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract and there would be **no impact**.

Mitigation: None required.

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[g]).

Rosemary Project

The Rosemary 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[g]). *(No Impact)*

As discussed in Section 3.3.1.2, the Rosemary 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 current zoning of the Project site (AE-20) would remain unchanged if the Rosemary Project were approved. Therefore, the Rosemary Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and there would be **no impact** under this criterion.

Mitigation: None required.

PG&E Project

The PG&E 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[g]). *(No Impact)*

The PG&E Project alignment is not on 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]). CPUC General Order No. 131-E preempts the County from using its local land use authority to regulate electric facilities constructed by public utilities such as PG&E; nonetheless, the Rosemary Project would not conflict with existing zoning. Therefore, the PG&E Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and there would be **no impact** under criterion c).

Mitigation: None required.

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

Rosemary Project

The Rosemary Project would not result in the loss of forest land or conversion of forest land to non-forest use. *(No Impact)*

As described in Section 3.5, *Biological Resources*, the Rosemary Project site is located on actively farmed or fallowed agricultural land with ruderal/disturbed lands and agricultural ditches on the perimeter. As described in Section 3.3.1, *Setting*, the Rosemary Project site does not contain any land defined as forest land, as defined by Government Code Section 51104(g). Therefore, the Rosemary Project would not result in the loss of forest land or conversion of forest land to non-forest use and there would be **no impact** under this criterion.

Mitigation: None required.

PG&E Project

The PG&E Project would not result in the loss of forest land or conversion of forest land to non-forest use. *(No Impact)*

Similar to the Rosemary Project, the PG&E Project site does not contain any forest land, as defined by Government Code Section 51104(g). The reconductoring work would occur along the existing 70 kV Helm–Crescent transmission line, within existing facility boundaries, or within the existing PG&E right-of-way or franchise areas. Therefore, the PG&E Project would not result in the loss of forest land or conversion of forest land to non-forest use and there would be **no impact** under this criterion.

Mitigation: None required.

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.

Rosemary Project

The Rosemary Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use. (*No Impact*)

As discussed under criteria c) and d) the Rosemary Project site does not contain any land defined as forest land, timberland, or timberland zoned Timberland Production. Thus, **no impact** would occur with respect to forest land conversion.

Mitigation: None required.

Impact 3.3-1: The Rosemary 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 Rosemary Project would not involve any direct changes to Farmland, as none of the parcels that comprise the Rosemary Project site are mapped as Farmland. As discussed in Section 3.3.1.2*, Environmental Setting*, the Rosemary Project site is immediately adjacent to parcels designated as Farmland of Statewide Importance. Surrounding land uses also include other solar PV generating facilities, like the San Joaquin Solar Project and PG&E's Stroud Solar Station to the East and Giffen Solar Farm to the West.

The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production and/or protected resource land, such as Williamson Act contracted lands, higher than one with a relatively small percentage of surrounding land in agricultural production. Considerations for the surrounding and protected agricultural lands are included as individual site assessment factors in the LESA model, with a 0.25-mile ZOI around the Project site, as described in Section 3.3.1*, Setting.* As discussed in Section 3.3.1 and outlined in the LESA prepared for the Project (Appendix D), the ZOI contains both Farmland of Statewide Importance and Farmland of Local Importance, with 3,215.6 acres of protected resource land under Williamson Act contracts. Taken together with the Project's land evaluation factors, such as suitability of soils for agriculture and water resources availability, the LESA concluded that the Project would not have a significant impact on agricultural land use within the site or its ZOI.

Additionally, many of the adjacent parcels designated as Farmland of Statewide Importance are under Williamson Act contracts, which would require them to remain for agricultural purposes for at least a 10-year period unless the Williamson Act contracts were petitioned for cancellation by the landowners, subject to approval by the County Board of Supervisors. Conversion of any parcels subject to Williamson Act contracts to non-agricultural use would, thus, require further discretionary review and approval. It

would be speculative to assume the Rosemary Project would result in nearby landowners removing their property from the program at this time, as there are no pending applications.

In addition, the Rosemary Project would limit indirect effects on the surrounding Farmland, as the Applicant proposes to maintain a minimum 50-foot buffer from the edges of the Rosemary Project site boundaries to neighboring agricultural operations, consistent with the Fresno County Solar Facility Guidelines. Proposed weed and other pest control activities described in **Appendix B2**, *Draft Pest Management Plan*, and recordation of an acknowledgement of the County's Right to Farm Ordinance prior to issuance of permits are also proposed to support the effectiveness of efforts to minimize impacts to existing agricultural operations. Furthermore, the Project involves no changes to the existing environment that would impact the defining characteristics of off-site Farmland, such as water availability or soil quality. The Applicant would also enforce sediment control and erosion prevention measures, such as watering for dust control and implementing a revegetation plan to mitigate temporary disturbance from construction. These measures would help ensure that the Rosemary Project would have no impact on soils on the site or on parcels surrounding the site.

Although portions of the Farmland of Statewide Importance adjacent to the Project site are protected under Williamson Act contracts, the LESA found no significant impact on agricultural land use. The Project would not directly convert any Farmland and would include measures to limit impacts to adjacent agricultural land uses. Therefore, indirect impacts related to conversion of Farmland to non-agricultural use would be **less than significant**.

Mitigation: None required.

PG&E Project

The PG&E Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or forest land to non-forest use. *(No Impact*)

As discussed under criteria c) and d), the PG&E site does not contain any land defined as forest land, timberland, or timberland zoned Timberland Production nor does the surrounding area contain any forested land that the PG&E Project could have an indirect impact on. Although the reconductoring portion of the Project is located on land designated as Prime Farmland and Farmland of Statewide Importance, the PG&E work would occur within existing PG&E facility boundaries or right-of-way or within *franchise areas*, which include public streets, roads, highways and other public ways and places where PG&E has a legal right to occupy. No indirect conversion of Farmland would occur as a result of the PG&E Project and there would be **no impact** under this criterion.

Mitigation: None required.

3.3.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.3-1**, *Summary of Project Impacts on Agriculture and Forestry Resources*, summarizes the impacts of the Project as a whole on agriculture and forestry resources.

TABLE 3.3-1
SUMMARY OF PROJECT IMPACTS ON AGRICULTURE AND FORESTRY RESOURCES

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

3.3.4 Cumulative Effects

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.

Because the Project (including both the Rosemary Project and PG&E Project) would cause **no impact** resulting the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the FMMP, to non-agricultural use, the Rosemary Project and PG&E Project would not cause or contribute to any cumulative effect related to criterion a).

Mitigation: None required.

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

Because the Project would cause **no impact** regarding conflict with existing zoning for agricultural use or a Williamson Act contract, the Rosemary Project and PG&E Project would not cause or contribute to any cumulative effect related to criterion b).

Mitigation: None required.

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[g]).

Because the Project would cause **no impact** regarding conflicting with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]), the Rosemary Project and PG&E Project would not cause or contribute to any cumulative effect related to criterion c).

Mitigation: None required.

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

Because the Project would cause **no impact** resulting in the loss of forest land or conversion of forest land to non-forest use, the Rosemary Project and PG&E Project would not cause or contribute to any cumulative effect related to criterion d).

Mitigation: None required.

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.

Because the Project (the Rosemary Project and the PG&E Project) would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use and there would be no impact under criterion e), the Project would not cause or contribute to any cumulative effect relating to forest land conversion.

Mitigation: None required.

The PG&E Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. Further, the PG&E Project is designed to facilitate the interconnection of the Rosemary Project and to enhance electrical system reliability. There would be no impact under criterion e), and the reconductoring portion of the PG&E Project is not expected to facilitate additional conversion of farmland into a non-agricultural use.

Mitigation: None required.

Impact 3.3-1c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to 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 geographic context for potential cumulative effects related to other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use in Fresno County.

The term *cumulative effects* refers to two or more individual effects, which, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative effect 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. Ongoing impacts of past projects to agricultural resources, including Farmland, are reflected in the environmental setting described in Section 3.3.1.2 and specifically include the conversion of agricultural uses to solar facilities as part of the San Joaquin Solar project, the Griffen Solar Farm project, and PG&E's Stroud Solar Station project, in the area surrounding the Rosemary Project site. There are other projects under County consideration that, if approved and constructed, have the potential to cause impacts that could combine with those of the Project to result in an adverse cumulative effect. See Table 3.1-1. For example, the 4,089-acre Scarlet Solar project is located 9.5 miles northwest of the Rosemary Project site on Farmland of Statewide Importance and Farmland of Local Importance (Fresno County 2021). The Darden Clean Energy Project is proposed partially on Prime Farmland and on Farmland of Statewide Importance (CEC, 2025). The 2,000-acre Sonrisa Solar project located approximately 11 miles northwest of the Rosemary Project site is not located on or surrounded by land mapped as Farmland by the FMMP (Fresno County 2024c) and its impacts would not combine with the incremental impacts of the Rosemary Project in this regard.

The Rosemary Project would have a less-than-significant indirect impact related to potential conversion of adjacent off-site Farmland to non-agricultural use. Because this incremental impact could contribute to a potentially significant cumulative effect, the County has considered whether the contribution would be cumulatively significant.

As the Rosemary Project would be located solely on Farmland of Local Importance, it would not directly convert any Farmland, in contrast with the Scarlet Solar Project and the Darden Clean Energy Project, which would directly convert Farmland. As discussed under Impact 3.3-1 above, the Farmland adjacent to the Project site is protected under Williamson Act contracts, the LESA found no significant impact on agricultural land use within the Project's zone of influence, and the Rosemary Project would include measures to limit impacts to adjacent agricultural land uses. For these reasons, the Project's **less-than-significant indirect impact** would not be cumulatively considerable.

Mitigation: None required.

3.3.5 References

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WWD (Westlands Water District). 2021. Detailed District Map. Available: https://wwd.ca.gov/about-westlands/maps/. Accessed March 24, 2025.

3.4 Air Quality

This section identifies and evaluates impact to air quality, including consistency with the applicable air quality plan and the emissions of criteria pollutants and other air pollutants. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, explains the methods used in evaluating these impacts, and provides the results of the impact assessment.

This analysis is based in part on project-specific air quality and greenhouse gas emissions technical reports prepared by ICF for the Project (**Appendix E1** and **Appendix E2**). 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 the preparation of the EIR.

The County received scoping comments from the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to air quality (**Appendix A**, *Scoping Report*). The County reviewed and considered the SJVAPCD's input in preparing the Draft EIR.

3.4.1 Setting

3.4.1.1 Study Area

The Project site is in the San Joaquin Valley Air Basin (Air Basin), which occupies the southern half of the Central Valley and comprises eight counties: San Joaquin, Stanislaus, Fresno, Merced, Madera, Kings, Tulare, and portions of Kern County. The Air Basin is approximately 250 miles long and 35 miles in width (on average) and is bordered by the Coast Range Mountains on the west, the Sierra Nevada mountains on the east, and the Tehachapi Mountains to the south. On the valley floor, the Air Basin is open only to the north, which heavily influences prevailing winds (SJVAPCD 2015a).

Although marine air generally flows into the Air Basin from the San Francisco Bay Area through the Carquinez Strait (a gap in the Coast Range Mountains) and low mountain passes such as Altamont Pass and Pacheco Pass, the mountain ranges restrict air movement through the Air Basin. Additionally, most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet). These topographic features result in weak airflow and poor dispersion of pollutants. As a result, the Air Basin is highly susceptible to pollutant accumulation. The average daily maximum and minimum summer temperatures (i.e., July) in Five Points, approximately 20 miles southeast of the Project site, are approximately 98 degrees Fahrenheit (°F) and 63°F, respectively, and the average daily maximum and minimum winter (i.e., January) temperatures are approximately 55°F and 36°F, respectively. Average annual precipitation is approximately 7 inches (WRCC 2021).

3.4.1.2 Environmental Setting

Criteria Air Pollutants

The U.S. Environmental Protection Agency (EPA) has identified criteria air pollutants and has set National Ambient Air Quality Standards (NAAQS) for widespread pollutants from numerous and diverse sources that are a threat to public health and welfare. The EPA has set NAAQS for the following seven principal pollutants, which are called "criteria" pollutants: carbon monoxide (CO), lead, nitrogen dioxide

(NO_2), ozone, particulate matter less than or equal to 10 microns in diameter (PM_{10}), particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and sulfur dioxide (SO_2). The State of California has established the California Ambient Air Quality Standards (CAAQS) for these criteria pollutants, as well as ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The criteria air pollutants that are a concern in the Air Basin are discussed below.

Nitrogen Dioxide

NO_2 is an air quality pollutant of concern because it acts as a respiratory irritant. NO_2 is a major component of the group of gaseous nitrogen compounds commonly referred to as oxides of nitrogen (NO_x). A precursor to ozone formation, NO_x is produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, NO_x emitted from fuel combustion is in the form of nitric oxide (i.e., NO) and NO_2. NO is often converted to NO_2 when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of the air on high-pollution days, especially in conjunction with high ozone levels.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving volatile organic compounds (VOC) and NO_x. VOC is also referred to as reactive organic gases (ROG) by the California Air Resources Board (CARB). ROG and NO_x are known as *precursor compounds* for ozone. Significant ozone production generally requires ozone precursors to 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 VOC and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when conditions such as long sunny days and regional subsidence inversions are conducive to the formation and accumulation of secondary photochemical compounds.

Carbon Monoxide

CO is a nonreactive pollutant that is a product of incomplete combustion and is associated mostly 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 oxygen-carrying capacity of the blood. This process reduces the amount of oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Particulate Matter

PM_{10} and $PM_{2.5}$ 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, while others, such as vehicular traffic, have a more regional effect. Particulates can damage materials and reduce visibility. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Annually, 7,300–11,000 premature cardiopulmonary deaths in California are estimated to be associated with exposures to particulate matter (CARB 2010).

Sulfur Dioxide

SO_2 is a colorless acidic gas with a pungent odor produced by the combustion of sulfur-containing fuels, such as oil, coal, and diesel. It has the potential to damage materials and cause health effects at high concentrations. SO_2 can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

Toxic Air Contaminants

According to Section 39655 of the California Health and Safety Code, a *toxic air contaminant* (TAC) is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." CARB has identified 189 substances known to have or that may have adverse effects on human health or the environment, calling them TACs. CARB classified "particulate emissions from diesel-fueled engines" (i.e., diesel particulate matter [DPM]) (17 Cal. Code Regs. Section 93000) as a TAC in August 1998. DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. DPM is emitted from a broad range of diesel engines: on-road diesel engines for trucks, buses, and cars and off-road diesel engines for locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70 percent of all airborne cancer risk in California is associated with DPM.

Valley Fever

Coccidioidomycosis, more commonly known as Valley Fever, is an infection caused by the inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The spores can be found in some areas naturally occurring in soils, can become airborne when the soil is disturbed, and can subsequently be inhaled into the lungs. Valley Fever symptoms occur within 2–3 weeks of exposure.

Approximately 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. The fungus is very prevalent in the soils of California's San Joaquin Valley, including in Fresno County. *Coccidioides* is thought to grow best in soil after heavy rainfall and then disperse into the air most effectively during hot, dry conditions.

Fresno County is considered "highly endemic" for Valley Fever, with over 20 cases per year per 100,000 people (CDIR 2024). Western Fresno County is considered an area of elevated Valley Fever activity (Fresno County 2024a). In susceptible people and animals, infection occurs when a *Coccidioides*

immitis spore is inhaled. Fungal spores become airborne when soil is disturbed by natural processes such as wind or earthquakes, or by human-induced ground-disturbing activities, such as construction and farming.

The Centers for Disease Control and Prevention 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 2024a; Fresno County 2024a). 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 lungs and initially resemble the flu or pneumonia (e.g., fatigue, cough, shortness of breath, chest pain, fever, rash, headache, and joint aches). Despite the prioritization of Valley Fever research by the National Institutes of Health and the Centers for Disease Control and Prevention, no vaccine exists to protect humans from Valley Fever (CDC 2024b). Valley Fever is not contagious, and secondary infections are rare. On average, approximately 200 Valley Fever-associated deaths occurred each year (deaths in which Valley Fever was listed as a primary or contributing cause on a death certificate) in the United States between 1999 and 2019 (CDC 2024a).

The number of cases of Valley Fever in Fresno County has varied over the past several years. Between 2018 and 2021, the total number of new cases decreased from 660 to 436. In 2022, the number of total new cases rose to 469 (FCDPH 2024). Then in 2023 and 2024, the number of new cases fell to 52 and 144, respectively, but new cases in 2025 appear to be on the rise again with 170 cases reported through February (CDPH 2025). 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 2024b).

Sensitive Receptors

Some people are considered more sensitive than others to air pollutants. Reasons for greater than average sensitivity include age, preexisting health conditions, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered relatively sensitive to poor air quality because children, elderly, and infirm persons are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with greater associated exposure to ambient air quality. Recreational uses are also considered sensitive because of the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system. SJVAPCD considers hospitals, schools, parks, playgrounds, daycare centers, nursing homes, convalescent facilities, and residential areas as sensitive receptor land uses (SJVAPCD 2015a).

The nearest sensitive receptors to the Project site include the following:

- A single-family residence off of South Napa Avenue, approximately 1.2 miles northwest of the Rosemary Project site.
- A single-family residence on the southwest corner of South Placer Avenue and West Dinuba Avenue, approximately 1,000 feet southwest of the Helm Substation and approximately 80 feet west of the PG&E Project alignment.

Existing Air Quality

SJVAPCD operates a regional monitoring network that measures the ambient concentrations of criteria pollutants. Existing and probable future levels of air quality in the Air Basin can be inferred from ambient air quality measurements conducted by SJVAPCD at its monitoring stations. The major criteria pollutants of concern in the Air Basin—ozone, NO_2, PM_{10}, and $PM_{2.5}$—are monitored at multiple locations and associated air quality data statistics are posted online by CARB. Pollutant emissions, topography, and meteorological conditions for a given area determine the background ambient concentrations of pollutants. As a result, background concentrations can vary among different locations within Fresno County. However, areas that are close together with similar topography and are exposed to similar wind conditions can be expected to have similar background pollutant concentrations. The closest SJVAPCD monitoring stations to the Project are the Tranquillity–32650 West Adams Avenue monitoring station, approximately 12 miles northwest of the Rosemary Project site, which monitors ozone and $PM_{2.5,}$ and the Fresno–Drummond Street monitoring station, approximately 26 miles northeast of the Rosemary Project site, which monitors PM_{10} and NO_2. For the purposes of this analysis, these measurements were considered representative of the air quality conditions in the Project vicinity. CO and SO_2 concentrations no longer exceed health-based standards in California, and CARB no longer posts air quality data statistics online for those pollutants.

Table 3.4-1*, Air Quality Data Summary (2021–2023) for the Project Area,* shows a 3-year summary of ozone and $PM_{2.5}$ data collected at the Tranquillity–32650 West Adams Avenue monitoring station and PM_{10} and NO_2 data collected at the Fresno–Drummond Street monitoring station. The table also compares these data to the NAAQS and CAAQS, which are presented in more detail in **Table 3.4-2**, *Ambient Air Quality Standards and Air Basin Attainment Status*. As shown in Table 3.4-1, the national and state 8-hour ozone standards and the state 24-hour $PM_{2.5}$ standard were exceeded multiple days during 2021, and the state 24-hour PM_{10} standard was exceeded between 20 and 133 days each year from 2021 through 2023.

TABLE 3.4-1
AIR QUALITY DATA SUMMARY (2021–2023) FOR THE PROJECT AREA

Pollutant	Standard	Monitoring Data by Year		
		2021	2022	2023
Ozone				
Highest 1-Hour Average, ppm		0.088	0.074	0.073
Days over State Standard	0.09 ppm	0	0	0
Highest 8-Hour Average, ppm		**0.080**	0.066	0.065
Days over National and State Standards[a]	0.070 ppm	5	0	0
Fine Particulate Matter, $PM_{2.5}$				
Highest 24-Hour Average, µg/m_3		**65.3**	33.1	26.2
Measured days over National Standard Exceedances/Samples[b]	35 µg/m^3	7	0	0
Annual Average, µg/m_3		9	*	4.8
Exceed State Standards?	12 µg/m^3	No	*	No

Pollutant	Standard	Monitoring Data by Year		
		2021	2022	2023
Particulate Matter, PM_{10}				
Highest 24-Hour Average		**149.8**	**166.5**	**130.0**
Measured Days over State Standard	50 μg/m³	20	133	120
Measured Days over National Standard	150 μg/m³	0	0	0
State Annual Average	20 μg/m³	*	*	*
Nitrogen Dioxide (NO_2)				
Highest 1-Hour Average		0.064	0.058	0.058
Days over State Standard	0.18 ppm	0	0	0
Days over National Standard	0.100 ppm	0	0	0
State/National Annual Average	0.030/0.053 ppm	0.011	0.012	0.012

NOTES: μg/m³ = micrograms per cubic meter; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; ppm = parts per million

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.

a. In October 2015, the U.S. Environmental Protection Agency implemented a new national 8-hour ozone standard of 70 parts per billion (or 0.070 ppm).

* Insufficient data available to determine the value.

SOURCE: CARB 2024a

TABLE 3.4-2
AMBIENT AIR QUALITY STANDARDS AND AIR BASIN ATTAINMENT STATUS

Pollutant	Averaging Time	National Standard		State Standard	
		Concentration	Air Basin Attainment Status	Concentration	Air Basin Attainment Status
Ozone	8-Hour	0.070 ppm	Non-attainment/Extreme	0.070 ppm	Non-attainment
	1-Hour	--	--	0.090 ppm	Non-attainment/Severe
Carbon Monoxide	1-Hour	35 ppm	Attainment/Unclassified	20 ppm	Attainment/ Unclassified
	8-Hour	9 ppm		9.0 ppm	
Nitrogen Dioxide	1-Hour	0.100 ppm	Attainment/Unclassified	0.18 ppm	Attainment
	Annual	0.053 ppm		0.030 ppm	
Sulfur Dioxide	1-Hour	0.075 ppm	Attainment/Unclassified	0.25 ppm	Attainment
	24-Hour	0.14 ppm		0.04 ppm	--
Respirable Particulate Matter (PM_{10})	24-Hour	150 μg/m³	Maintenance	50 μg/m³	Non-attainment
	Annual	--	--	20 μg/m³	
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	35 μg/m³	Non-attainment/Serious	--	Non-attainment
	Annual	9.0 μg/m³	Attainment	12 μg/m³	Non-attainment
Lead	30-Day	--	--	1.5 μg/m³	Attainment
	Quarterly	1.5 μg/m³	No Designation/ Classification	--	--

NOTES: μg/m³ = micrograms per cubic meter; ppm = parts per million

SOURCE: SJVAPCD 2024a.

3.4.1.3 Regulatory Setting

Federal

The 1970 Clean Air Act (CAA) (most recently amended in 1990) requires that regional planning and air pollution control agencies prepare regional air quality plans. The plans must outline the measures by which both stationary and mobile sources of pollutants will be controlled to achieve all ambient air quality standards by the deadlines specified in the act. These *ambient air quality standards* are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weakened from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed. Table 3.4-2 presents the current NAAQS and CAAQS and the Air Basin's attainment status relative to those standards.

By law, the EPA must set the NAAQS at levels that are requisite to protect public health. Therefore, the closer a region is to attaining a particular ambient air quality standard, the lower the human health impact is from that pollutant. See Section 3.4.1.2, *Environmental Setting*, for a brief description of the health effects of exposure to criteria air pollutants. Pursuant to the 1990 federal CAA Amendments, the EPA classifies air basins (or portions thereof) as "attainment," "non-attainment," or "unclassified" for each criteria air pollutant, based on whether the national standards have been achieved. An "unclassified" designation indicates that air quality and other relevant information is insufficient to determine whether the area is attainment or non-attainment. As shown in Table 3.4-2, the Air Basin is currently classified as non-attainment for the national 8-hour ozone and 24-hour $PM_{2.5}$ standards. All other criteria pollutants are classified as attainment or unclassified in the Air Basin relative to the federal standards.

State

California Clean Air Act and Ambient Air Quality Standards

Although the federal CAA established the NAAQS, individual states retain the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological challenges in California, there are differences between the national and state ambient air quality standards. The current CAAQS are shown in Table 3.4-2. Most of the CAAQS are at least as protective as the NAAQS.

The NAAQS and CAAQS have been set at levels considered safe to protect the public, including the health of sensitive populations, such as asthmatics, children, and the elderly, with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. As explained by CARB, "an air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without any harmful effects on people or the environment" (CARB 2024b). That is, if a region is in compliance with the ambient air quality standards, its regional air quality can be considered protective of public health.

The California CAA (Health and Safety Code Section 39600 et seq.), like its federal counterpart, calls for designation of areas as "attainment," "non-attainment," or "unclassified" with respect to the CAAQS. The

Air Basin is currently designated as non-attainment for the following CAAQS: 1-hour and 8-hour ozone, the 24-hour and annual average PM_{10}, and the 24-hour and annual average $PM_{2.5}$. The Air Basin is designated as attainment or unclassified with respect to the other state standards.

In 2003, the California Legislature enacted Senate Bill (SB) 656 (Chapter 738), codified as Health and Safety Code Section 39614, to reduce public exposure to PM_{10} and $PM_{2.5}$. SB 656 required CARB, in consultation with local air districts, to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by CARB and the air districts to reduce PM_{10} and $PM_{2.5}$ (referred to collectively as "PM"). The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$ and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal $PM_{2.5}$ attainment plans, as well as for state ozone plans. This helps to ensure continuing focus on PM reduction and progress toward attaining California's more health protective standards. The list of air district control measures was adopted by CARB on November 18, 2004.

Diesel Risk Reduction Plan

To reduce the cancer risk associated with DPM, CARB adopted the Diesel Risk Reduction Plan in 2000 (CARB 2000). The comprehensive diesel risk reduction plan aims to mitigate the adverse health effects associated with DPM emissions. The plan encompasses various strategies, including stricter emission standards for new diesel engines, promotion of low-sulfur fuel, and retrofitting existing engines with emission control devices. These measures have contributed to a substantial reduction in PM emissions in the state.

Off-Road Diesel Emissions

The CARB In-Use Off-Road Diesel-Fueled Fleets Regulation applies to all self-propelled off-road diesel vehicles 25 horsepower or greater used in California and to most two-engine vehicles (except on-road two-engine sweepers). This includes vehicles that are rented or leased. CARB's goal is to gradually reduce the statewide construction vehicle fleet's emissions through turnover, repowering, or retrofits. New engine emissions requirements were grouped into tiers based on the year in which the engine was built. In 2014, new engines were required to meet Tier 4 Final standards which, to date, are the most stringent emissions standards for off-road vehicle engines. The goal of the In-Use Off-Road Diesel-Fueled Fleets Regulation is to reduce particulate matter (PM_{10} and $PM_{2.5}$) and NO_X emissions from off-road heavy-duty diesel vehicles in California (CARB 2024c). This regulation also limits idling to 5 minutes, requires a written idling policy for larger vehicle fleets, and requires that fleet operators provide information on their engines to CARB and label vehicles with a CARB-issued vehicle identification number.

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

In 2004, CARB adopted the Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling to reduce public exposure to DPM emissions (13 Cal. Code Regs. Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure prohibits diesel-fueled commercial vehicles from idling for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel

emissions, compliance with the regulation also reduces greenhouse gas emissions and saves energy by reducing fuel consumption from unnecessary idling.

Assembly Bill 203, Occupational Safety and Health: Valley Fever

On October 11, 2019, Assembly Bill (AB) 203 was enacted to add Section 6709 to the Labor Code, relating to occupational safety and health. This bill requires construction employers that engage in specified work activities or vehicle operation in counties where Valley Fever is highly endemic, such as Fresno County, to provide effective awareness training on Valley Fever to all employees annually and before employees begin work that is reasonably anticipated to cause substantial dust disturbance. Therefore, AB 203 would be applicable to Project work conducted within Fresno County. The law requires that the training cover specific topics and authorizes inclusion of the training in the employer's injury and illness prevention program training or as a standalone training program. The training must include the following topics:

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

Local

Fresno County 2024 General Plan

The Fresno County General Plan (Fresno County 2024b) outlines several policies intended for the improvement of air quality and reduction of air emissions within the county. The following goal and policies are applicable to the Project:

> **Goal OS-G:** To improve air quality and minimize the adverse effects of air quality pollution in Fresno County.
>
> > ***Policy OS-G.13 Valley Fever Mitigation:*** The County shall continue to promote public awareness of Valley Fever risks relating to ground disturbing activities through the provision of educational materials, webpages and resource contact information. For projects involving ground disturbance on unpaved areas left undisturbed for 6 months or more, the County shall require developers to provide project-specific Valley Fever training materials.
> >
> > ***Policy OS-G.14 Fugitive Dust Control Measures:*** 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 [now known as SJVAPCD] particulate matter

of less than ten (10) microns (PM_{10}) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District's Compliance Division.

Policy OS-G.16 Roadway Dust Control: The County shall continue to work to reduce PM_{10} and $PM_{2.5}$ emissions from County maintained roads by considering shoulder treatments for dust control as part of road reconstruction projects.

San Joaquin Valley Air Pollution Control District

The Rosemary Project site and PG&E Project alignment are within the jurisdiction of SJVAPCD, which regulates air pollutant emissions for all sources throughout the Air Basin other than motor vehicles. SJVAPCD administers permits governing stationary sources. Additionally, SJVAPCD enforces the following rules, regulations, and plans that are relevant to this analysis.

Regulation VIII (Fugitive PM_{10} Prohibitions) and Rule 8021

Regulation VIII contains rules developed pursuant to EPA guidance for "serious" PM_{10} non-attainment areas. Rules included under this regulation limit fugitive PM_{10} 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 3.4-3***, SJVAPCD Control Measure Options and Rule 8021 Measures for Dust Control,* contains control measures that would be applicable to construction activities for the Rosemary Project pursuant to Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities).

Rule 2010 (Permits Required)

This rule requires any person constructing, altering, replacing, or operating any source operation that emits, may emit, or may reduce emissions to obtain an Authority to Construct or a Permit to Operate.

Rule 2280 (Portable Equipment Registration)

This rule requires portable equipment used at project sites for less than 6 consecutive months to be registered with SJVAPCD.

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 4201 and Rule 4202 (Particulate Matter Concentration and Emission Rates)

These rules provide PM emission limits for sources operating in the district.

TABLE 3.4-3
SJVAPCD CONTROL MEASURE OPTIONS AND RULE 8021 MEASURES FOR DUST CONTROL

Letter/No.	Measure
A	**Pre-Activity**
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	**During Active Operations**
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.
C	**Temporary Stabilization During Periods of Inactivity**
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.
5 or 6	**Rule 8021 Measures**
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 (VDE) exceed 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 (APCO) prior to the start of any construction activity on any site that will include ten acres or more of disturbed surface area for residential developments, or five 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 APCO has approved or conditionally approved the Dust Control Plan. An owner/operator shall provide written notification to the APCO 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 APCO 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.

SOURCE: SJVAPCD 2004

Rule 9510 (Indirect Source Review)

Rule 9510 requires certain development projects to reduce exhaust emissions from construction equipment greater than 50 horsepower to 20 percent below statewide average NOx emissions and 45 percent below statewide average PM_{10} exhaust emissions. This rule also requires applicants to reduce emissions of NO_X and PM_{10} associated with operations by 33.3 percent and 50 percent, respectively, over a period of 10 years. If a project would result in less than 2 tons per year of NO_X and PM_{10} emissions, it would be exempt from the rule's general emissions reduction requirements and off-site emission reduction fees.

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

This rule limits volatile organic compound emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations.

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 the standards have been achieved. Jurisdictions of non-attainment areas also are required to prepare an air quality management plan that includes strategies for achieving attainment. SJVAPCD has approved air quality management plans demonstrating how the Air Basin will reach attainment of the state 1-hour and federal and state 8-hour ozone standards, and the state PM_{10} and $PM_{2.5}$ 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 the EPA in June 2005. The *2013 Plan for the Revoked 1-Hour Ozone Standard* was approved by the Governing Board on September 19, 2013, to attain the 1-hour ozone standard by 2017 (SJVAPCD 2013). On July 18, 2016, the EPA published in the *Federal Register* the final action to determine that the Air Basin has attained the 1-hour ozone standard. On June 15, 2023, the SJVAPCD adopted the *Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard*. This document includes requirements to terminate anti-backsliding provisions for the revoked 1-hour ozone standard, including Section 185 nonattainment fees requirements as well as all other provisions for a maintenance plan. It also includes a demonstration that would help ensure the area remains in attainment of the 1-hour ozone NAAQS through 2036 (SJVAPCD 2023).

SJVAPCD adopted the *2016 Plan for the 2008 8-Hour Ozone Standard* in June 2016. This plan satisfies CAA requirements and helps to ensure expeditious attainment of the 75 parts per billion 8-hour ozone standard (SJVAPCD 2016a). On May 19, 2020, the Governing Board adopted the *2020 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone Standard* (SJVAPCD 2020), which includes a demonstration that the SJVAPCD rules implement Reasonably Available Control Technology. The plan reviews each of the NO_x reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed Reasonably Available Control Technology. The *2022 Plan for the 2015 8-Hour Ozone Standard* for the San Joaquin Valley outlines a comprehensive strategy to meet the 2015 8-hour ozone standard. This plan, adopted in December 2022, incorporates a range of measures to reduce emissions from various sources, including transportation,

industry, and agriculture. Key components of the plan involve stricter emissions standards for vehicles, promoting cleaner fuels, and implementing incentive programs for businesses to adopt more environmentally friendly practices. Additionally, the plan emphasizes the importance of air quality monitoring and modeling to track progress and identify areas needing further attention (SJVAPCD 2022).

Particulate Matter Attainment Plans

Effective November 12, 2008, the EPA redesignated the Air Basin as an attainment area with respect to the PM_{10} NAAQS and approved the *2007 PM_{10} Maintenance Plan* (EPA 2008).

In April 2008, the SJVAPCD Board adopted the *2008 $PM_{2.5}$ Plan* (SJVAPCD 2008) and subsequently approved amendments on June 17, 2010. This plan was designed to address EPA's annual $PM_{2.5}$ standard of 15 micrograms per cubic meter, which was established by the EPA in 1997. In April 2015, the SJVAPCD Board adopted the *2015 Plan for the 1997 $PM_{2.5}$ Standard*, which addresses EPA's annual and 24-hour $PM_{2.5}$ standards established in 1997 after the Air Basin experienced higher $PM_{2.5}$ levels during the 2013–2014 winter due to the extreme drought, stagnation, strong inversions, and historically dry conditions, and SJVAPCD was unable to meet the initial attainment date of December 31, 2015 (SJVAPCD 2015b).

SJVAPCD adopted the *2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard* on September 15, 2016. This plan addresses the updated EPA federal annual $PM_{2.5}$ standard of 12 $\mu g/m^3$, established in 2012. This plan includes an attainment impracticability demonstration and a request for reclassification of the Air Basin from Moderate non-attainment to Serious non-attainment (SJVAPCD 2016b). The *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* was adopted on November 15, 2018, and uses 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 $PM_{2.5}$. The plan consists of a combination of innovative regulatory and nonregulatory measures, including aggressive incentive-based control measures, that achieve the emissions reductions needed to bring the area into attainment (SJVAPCD 2018). The *2024 Plan for the 2012 Annual $PM_{2.5}$ Standard* was adopted on June 20, 2024. The plan was adopted to fulfill the remaining requirements of the CAA, including the final modeling analysis, attainment strategy and emission reduction commitments, reasonable further progress/ quantitative milestones, and contingency measures. The goal of the plan is to bring the entire Air Basin into attainment of the 2012 $PM_{2.5}$ standards by 2030 (SJVAPCD 2024b).

3.4.2 Significance Criteria

A project would result in significant impacts 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* (Guidance) includes one additional criterion. Consistent with SJVAPCD's guidance. The Project would result in a significant impact on air quality if it would:

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

For the evaluation of significance relative to the criteria discussed above, the SJVAPCD Guidance document has established emissions-based thresholds of significance for criteria air pollutants (SJVAPCD 2015a), which are shown in **Table 3.4-4**, *SJVAPCD Air Quality Thresholds of Significance—Criteria Air Pollutants*. SJVAPCD has the same significance thresholds for construction-related and operational emissions and recommends evaluating impact significance for these categories separately. These thresholds of significance are based on a calendar-year basis, although construction emissions are assessed on a rolling 12-month period.

TABLE 3.4-4
SJVAPCD AIR QUALITY THRESHOLDS OF SIGNIFICANCE—CRITERIA AIR POLLUTANTS

Pollutant	Construction Emissions (tons per year)	Operational Emissions (tons per year)
CO	100	100
NOx	10	10
ROG	10	10
SOx	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

NOTES: CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur

SOURCE: SJVAPCD 2015a

In addition to the annual SJVAPCD thresholds outlined above, SJVAPCD has adopted the *Ambient Air Quality Analysis Project Daily Emissions Assessment* guidance, which is summarized in Section 8.4.2, *Ambient Air Quality Screening Tools*, of SJVAPCD's Guidance document. The *Ambient Air Quality Screening Tools* guidance provides a screening level of 100 pounds/day of any of the following pollutants: NO_X, ROG, PM_{10}, $PM_{2.5}$, SO_X, and CO. The screening level is used to evaluate construction and operational activities separately. Per SJVAPCD's Guidance document, when assessing the significance of project-related impacts on local air quality, the impacts *may* be significant if on-site emissions from construction or operational activities exceed the 100 pounds/day screening level after implementation of all enforceable mitigation measures. If the screening level is exceeded for any pollutant, an ambient air quality analysis (AAQA) should be conducted following SJVAPCD Rule 2201 (AAQA Modeling) for any phase that has an exceedance (SJVAPCD 2014a). An AAQA uses air dispersion modeling to determine whether emission increases from a project's construction or operational activities would cause or contribute to a violation of the ambient air quality.

SJVAPCD recommends comparing a project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of CO concentrations that would substantially contribute to an exceedance of the thresholds of significance. The Project could result in a significant impact on localized CO concentrations if either or both of the following would occur (SJVAPCD 2015a):

- 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 F.
- A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets at more one or more intersections in the project vicinity.

The SJVAPCD has established health risk thresholds of significance for combined TAC emissions from the operations of both permitted and non-permitted sources (SJVAPCD 2015a). Projects that have the potential to expose the public to TACs in excess of the following thresholds 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.

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

The 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 the 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 impact that would be associated with the Project are assessed qualitatively.

3.4.3 Direct and Indirect Effects

3.4.3.1 Applicant-Proposed Measures and Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.3, *Dust Control and Valley Fever Management Plan*, could reduce potential Rosemary Project impacts on air quality.

Similarly, PG&E and its contractors routinely implement standard measures and other best practices (*Standard Practices*) to help ensure the safety of their work crews and the public and to minimize

potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E-Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.7, *Other Construction Measures and Practices*, could reduce potential PG&E Project impacts on air quality.

3.4.3.2 Methodology

This section presents the methodology used for the analysis of the Project's construction, operational, and decommissioning emissions. Criteria pollutants for Project emissions were calculated using the California Emissions Estimator Model (CalEEMod) Versions 2022.1.1.28 and 2022.1.1.29. The input data and construction and operation emission estimates for the Project are summarized below and provided in detail in Appendix E1 and Appendix E2 of this EIR.

Construction and Decommissioning Criteria Pollutant Emissions

Construction emissions of criteria air pollutants could be generated by earth moving, paving, architectural coatings, construction equipment and vehicles used on-site and by workers, haul trucks, and vendor vehicle trips to and from the construction site.

Rosemary Project

Construction of Rosemary 1, 2, and 3 and the Rosemary Shared Facilities could occur concurrently or sequentially, with the total construction duration no longer than 18 months. Should construction be phased, the construction of the Rosemary Shared Facilities would occur concurrently with the construction of Rosemary 1, and construction of Rosemary 2 would occur concurrently with Rosemary 3. If facilities were to be constructed sequentially, the construction of Rosemary 1 and the Rosemary Shared Facilities would last approximately 12 months. The construction of Rosemary 2 and 3 would each last approximately 6 months.

The concurrent scenario assumes all Rosemary Project facilities (including Rosemary 1–3 and the Shared Facilities) would be developed together over a period of approximately 18 months. Emissions for both the concurrent and sequential construction scenarios have been estimated; however, most of the estimated sequential buildout scenario emissions are greater than the concurrent buildout scenario emissions and represent a more conservative estimate for the Rosemary Project. The one exception is relative to the annual 2026 PM_{10} dust emissions, which are greater for the concurrent buildout scenario. Therefore, for the purposes of this CEQA review, the construction emissions for the Rosemary Project represent the concurrent scenario for the annual 2027 PM_{10} dust emissions, and the sequential scenario for all other emissions. For detailed assumptions associated with the sequential and concurrent buildout scenarios, refer to Appendices E1 and E2.

Below are brief summaries of the main components of the Rosemary Project, followed by some of the main assumptions used in the emissions modeling:

- Rosemary 1
  - 70 megawatt (MW) PV solar power generation facility and 70 MW of battery ESS.
  - Approximate 12-month construction period.

- Rosemary 2
  - 35 MW PV solar power generation facility and 35 MW of battery ESS.
  - Approximate 6-month construction period.
- Rosemary 3
  - 35 MW PV solar power generation facility and 35 MW of battery ESS.
  - Approximate 6-month construction period concurrent with Rosemary 2.
- Rosemary Shared Facilities
  - Facilities shared among Rosemary 1–3, including an up to 2-mile-long gen-tie line, operation and maintenance (O&M) area, and substation and switchyard area.
  - Approximate 4-month construction period concurrent with Rosemary 1.

Construction equipment was estimated to operate between 4 and 8 hours per day, and equipment inputs in CalEEMod used default horsepower information and load factors. Construction activities were modeled to occur 6 days of the week. Although construction activity could occur over a 12-hour period per day, it is unlikely that any diesel-powered equipment would operate for more than 8 hours per day. Based on the water supply assessment prepared for the Rosemary Project, construction of the Rosemary Project would require approximately 325 acre-feet (105.9 million gallons) of water for dust suppression over the course of the construction period. Haul truck trips were modeled as exclusively heavy heavy-duty trucks, and vendor trips were modeled as heavy heavy-duty and medium heavy-duty trucks. The emissions modeling used the assumption that the Rosemary Project would generate a maximum of up to 544 daily vehicle trips (272 round trips) consisting of worker truck trips, vendor trips, off-site haul trips, and on-site truck trips.[1] Soils excavated during construction are assumed to be balanced on-site. This analysis assumes that the Project would comply with all applicable regulatory standards, including SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions) and Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities).

At the end of the useful life of the Project (anticipated to be 40 years), the Rosemary Project would be decommissioned. Decommissioning and site restoration would consist of the removal of all aboveground and belowground structures and the restoration of topsoil, where applicable, and otherwise in accordance with a County-approved reclamation plan. Draft reclamation plans are provided in **Appendix B1**, *Reclamation Plans*. Because decommissioning would occur a minimum of 40 years from the beginning of operations, the exact nature of the decommissioning activities and the equipment to be used is unknown. Accordingly, based on equipment, hauling, and labor estimates, decommissioning emissions were quantified using CalEEMod. CalEEMod does not include emission factors for years beyond 2050; therefore, it was assumed that decommissioning would occur over 6 months in 2050. Because of the increasing efficiency of vehicles, it is likely that the actual decommissioning activities would result in fewer emissions than are projected in this analysis.

[1] While construction of the Rosemary Project facilities would mostly occur sequentially under the sequential buildout condition, there would be some overlapping activity among construction phases (e.g., civil work, facility construction). The air quality analysis conservatively reports the highest one-way trip estimate, which would only occur during periods of peak phase overlap. Unlike the concurrent scenario, which accounts for shared construction activities and associated efficiencies, the sequential scenario assumes independent construction equipment and vehicles for each facility. The maximum daily trips estimate is conservative given efficiencies that would be gained from concurrent adjacent activity during the period of overlap.

PG&E Project

Reconductoring-related construction activities for the PG&E Project would occur over six sequential phases, modeled to begin in early 2026, and to conclude mid-2027. Emissions estimates were based on a combination of Project-specific inputs derived from similar PG&E reconductoring work and model defaults (Appendix E2) (ICF 2025). Construction equipment for the PG&E Project was estimated to operate between 2 and 4 hours per day, 5 days of the week. Construction of the PG&E Project would require approximately 30 acre-feet (9.8 million gallons) of water for dust suppression over the course of the construction period (Appendix E2). Haul trips were modeled as exclusively heavy heavy-duty truck trips. The PG&E Project is likely to generate an average of up to 38 daily vehicle trips (19 round trips) consisting of worker truck trips, off-site haul (heavy-duty truck) trips, and on-site truck trips. Soils excavated during construction are assumed to be balanced on-site.

The PG&E Project facilities are likely to operate in perpetuity; therefore, decommissioning of the PG&E Project facilities is not likely.

Operational Criteria Pollutant Emissions

Rosemary Project

The first full year of operation is assumed to be 2030. The Rosemary Project would include an O&M office that would be approximately 2,100 square feet and an O&M warehouse that would be approximately 3,000 square feet. Up to two 268-horspower diesel emergency generators would be maintained on-site. These generators would be tested monthly for up to 30 minutes per day and approximately 12 hours per year. In addition, Rosemary Project operation is estimated to require approximately 6.3 acre-feet (2.1 million gallons) per year for panel washing, dust control, and other uses.

Operational emissions of criteria pollutants for the Rosemary Project were estimated for ongoing operational activity, vegetation management activity, panel maintenance, inspection activity, and emergency generator testing. Rosemary Project specific information was used to estimate emissions from O&M activities. The emissions modeling accounts for watering unpaved roads used by the water truck during panel washing, as well as a 25 mile-per-hour speed limit for the panel washing truck. Daily emissions from O&M activities were analyzed under the following scenarios to capture the range in operational activities that could occur in a single day. The scenarios consider activities that could reasonably be conducted concurrently, as well as those activities that could not happen together (e.g., vegetation maintenance would not occur during panel washing or inspections).

- Scenario 1: Regular O&M facility operations (emergency generator testing) with ongoing maintenance and vegetation maintenance at Rosemary 1, 2, and 3.
- Scenario 2: Regular O&M facility operations (emergency generator testing) with ongoing maintenance and panel washing at Rosemary 1, 2, and 3.
- Scenario 3: Regular O&M facility operations (emergency generator testing) with ongoing maintenance and inspections at Rosemary 1, 2, and 3.

As noted above, construction of Rosemary Project facilities may occur sequentially or concurrently. O&M activities were assumed to begin immediately following construction. Thus, for the sequential buildout condition, O&M emissions associated with early development would partially overlap with construction activities (e.g., Rosemary 1 and Shared Facilities O&M activities would overlap with

construction of Rosemary 2 and 3). Overlapping construction and O&M emissions were combined to analyze maximum daily emissions under the sequential buildout condition. O&M emissions under the concurrent buildout condition would not overlap with construction. Refer to Appendix E1 for the CalEEMod output and detailed assumptions.

PG&E Project

Operation and maintenance of the reconductored transmission line would include monitoring the system remotely, responding and repairing the line if outages are detected, and conducting routine inspections of the line and poles and substations at regular intervals. The operation and maintenance activities associated with the reconductored transmission line would not change from PG&E's current practices; therefore, there would not be an increase in air pollutant emissions relative to baseline conditions.

Exposure to TACs, Odors, and Fungus Spores

The Project's construction, operation, and decommissioning activities would occur at distances greater than 1,000 feet from sensitive receptors or would not last for more than 2 months at any one location, resulting in lower health risks. Therefore, the health risk and odors analysis of the Project was conducted qualitatively. With regard to exposure to fugus spores, specific controls to minimize personnel and public exposure to Valley Fever to the greatest extent possible would be considered to reduce potentially significant impacts to a less-than-significant level, as discussed below.

3.4.3.3 Direct and Indirect Effects of the Project

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

The PG&E Project would not result in an increase in emissions associated with operation and maintenance and would not be decommissioned; therefore, it would cause no impact once reconductoring is complete associated with the potential to obstruct implementation of SJVAPCD's air quality plans. (*No Impact*)

Impact 3.4-1: The Project would not conflict with or obstruct implementation of the applicable air quality plan. (*Less-than-Significant Impact*)

The construction, operation, and decommissioning of the Rosemary Project and reconductoring and substation upgrade-related construction activities for the PG&E Project would result in emissions of criteria air pollutants, including ozone precursors (such as ROG and NOx) and PM, that could potentially conflict with the local air quality plan. SJVAPCD has prepared several air quality attainment plans to achieve ozone and PM standards, the most recent of which include the *2022 Plan for the 2015 8-Hour Ozone Standard, 2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* and the *2016 Plan for the 2008 8-Hour Ozone Standard, the Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard, 2007 PM_{10} Maintenance Plan and Request for Re-designation, 2012 $PM_{2.5}$ Plan, 2015 Plan for the 1997 $PM_{2.5}$ Standard,* and *2024 Plan for the 2012 Annual $PM_{2.5}$ Standard*. In addition, the Project would be required to comply with applicable SJVAPCD rules and regulations, such as Regulation VIII (Fugitive PM_{10} Prohibitions) and Rule 9510 (Indirect Source Review), which are summarized in Section 3.4.1.3, *Regulatory Setting*. The Rosemary Project also would implement a Dust Control and Valley Fever Management Plan, and PG&E would

comply with applicable regulations and implement various construction best management practices to limit air quality impacts during construction.

Per Section 7.12 of its Guidance document, SJVAPCD has determined that projects with emissions that would exceed the thresholds of significance for criteria pollutants would conflict with or obstruct implementation of SJVAPCD's air quality plans (SJVAPCD 2015a). As discussed under Impact 3.4-2, construction emissions of the Project (including from the Rosemary Project and the PG&E Project) combined with the Rosemary Project's operational and decommissioning activities, would not result in emissions that would exceed the SJVAPCD screening level or significance thresholds for criteria pollutants (see Tables 3.4-5 through 3.4-9). Therefore, the impact associated with the potential for the Rosemary Project and the PG&E Project to obstruct implementation of SJVAPCD's air quality plans would be **less than significant**.

Mitigation: None required.

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.

The PG&E Project would not result in an increase in emissions associated with operation and maintenance and would not be decommissioned. Therefore, the PG&E Project would cause no impact once reconductoring is complete associated with net increase of criteria pollutants or a violation of any air quality standards. (*No Impact*)

Impact 3.4-2: The Project would result in a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard. (*Less-than-Significant Impact*)

Rosemary Project

Construction

Construction of the Rosemary Project would require approximately 18 months of construction activity. The *Air Quality and Greenhouse Gas Assessment for the Rosemary Solar and Storage System Complex Project* (Appendix E1) contains the phasing specifics related to the Rosemary Project construction schedule. Construction of the Rosemary Project would generate air pollutant emissions from earthmoving, paving, architectural coatings, entrained dust, use of heavy-duty off-road equipment, and vehicle emissions. Off-site emissions would be generated by construction worker commute trips and heavy-duty diesel haul and vendor truck trips. Construction emissions would vary substantially from day to day, depending on the level of activity, the specific type of activity being conducted, and for dust, the prevailing weather conditions.

Table 3.4-5, *Rosemary Project Daily On-Site and Annual Construction Criteria Air Pollutant Emissions*, summarizes the estimated maximum Rosemary Project daily on-site and annual tons per year for ROG,

NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions during construction. The emissions shown in **Table 3.4-5** were modeled assuming that worker, vendor, and haul truck trips would occur on paved surfaces, and that on-site truck trips would occur on unpaved roads. For the impact conclusion related to Project construction emissions, refer to the *Combined Project Construction Emissions* discussion.

TABLE 3.4-5
ROSEMARY PROJECT DAILY ON-SITE AND ANNUAL CONSTRUCTION CRITERIA AIR POLLUTANT EMISSIONS

Year	Pollutants					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Maximum Daily On-site Emissions (lb/day)						
2026	5	44	60	<1	30	5
2027	5	41	60	<1	30	5
Annual Emissions (ton/year)						
2026	<1	4	7	<1	3	1
2027	<1	2	5	<1	2	<1

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur

SOURCE: Appendix E1, Table 9

Operation and Maintenance

Operation of the Rosemary Project would result in a renewable energy resource that would generate very limited direct emissions of air pollutants. **Table 3.4-6**, *Rosemary Project Maximum Daily and Annual O&M Criteria Air Pollutants*, presents the Rosemary Project's operational emissions by source (i.e., ongoing operations, vegetation management, panel cleaning, inspections, and emergency generator testing). As shown in Table 3.4-6, the emissions generated during operation of the Rosemary Project would not exceed SJVAPCD's daily screening level or annual significance thresholds for any criteria pollutant. Thus, an AAQA would not be required, and emissions from Rosemary Project operation would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Accordingly, the Rosemary Project would result in a less-than-significant impact associated with the increase in operation and maintenance emissions of non-attainment pollutants. Therefore, consistent with SJVAPCD guidance, the Rosemary Project's operations 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 would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The resulting impact would be **less than significant**.

TABLE 3.4-6
ROSEMARY PROJECT MAXIMUM DAILY AND ANNUAL O&M CRITERIA AIR POLLUTANTS

Emission Source	Pollutants					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions (pounds/day)						
Ongoing Operations	0.1	0.3	3.1	<1	24.1	2.4
Vegetation Management	2.4	0.8	53.2	<1	0.5	0.1
Panel Cleaning	0	0.4	2.9	<1	18.4	2.0
Inspections	0.3	0.6	10.8	<1	2.1	0.6
Emergency Generator Testing	0.6	1.2	1.1	<1	0.1	0.1
Total Maximum Daily Emissions (lbs/day)	**3.4**	**3.3**	**71.1**	**<1**	**45.2**	**5.2**
SJVAPCD Screening Level (lbs/day)	100	100	100	100	100	100
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Emissions (tons/year)						
Ongoing Operations	<1	<1	0.4	<1	3.2	0.4
Vegetation Management	<1	<1	0.8	<1	0	0
Panel Cleaning	<1	<1	0	<1	0.8	0
Inspections	<1	<1	0	<1	0	0
Emergency Generator Testing	<1	<1	<1	<1	<1	<1
Annual Project Emissions (tons/year)	**<1**	**<1**	**1.2**	**<1**	**4.0**	**0.4**
SJVAPCD Annual Thresholds (tons/year)	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur

SOURCE: Appendix E1, Table 10

Overlapping Construction and Operation and Maintenance

Table 3.4-7, *Rosemary Project Maximum Daily Combined Construction and O&M Criteria Air Pollutants*, summarizes estimated maximum daily emissions for the sequential and concurrent buildout conditions. Under the sequential buildout condition, partial O&M emissions would overlap with Rosemary Project construction in 2027. The partial O&M emissions shown in Table 3.4-7 represent emissions from panel washing activities and ongoing inspections in 2027, and do not account for emissions from vegetation maintenance. Vegetation maintenance would begin in the second year after an establishment period and would then be a part of ongoing O&M activities for the Rosemary Project. Total annual O&M emissions for the Rosemary Project are presented above in Table 3.4-6. Overlapping construction and O&M emissions under the sequential buildout condition were added to evaluate potential worst-case daily emissions. O&M emissions under the concurrent buildout condition would not overlap with construction. Maximum daily emissions at full Rosemary Project operations (i.e., after all construction is complete) consider the three analysis scenarios described in Section 3.4.3.2, *Methodology*. These scenarios consider activities that could reasonably be conducted concurrently in a single day. As shown in Table 3.4-7, maximum daily emissions would not exceed SJVAPCD's screening levels.

TABLE 3.4-7
ROSEMARY PROJECT MAXIMUM DAILY COMBINED CONSTRUCTION AND O&M CRITERIA AIR POLLUTANTS

Year/Emissions Source	Maximum Daily Emissions (lbs/day)[a]					
	ROG	NO_x	CO	SO_x	PM_{10}[b]	$PM_{2.5}$[b]
Sequential Buildout Condition						
2027[c]						
Rosemary 1 O&M[d]	<1	<1	5	<1	21	2
Emergency Generator Testing O&M[e]	1	1	1	<1	<1	<1
On-site Construction[f]	5	41	60	<1	30	5
Total (2027)	6	42	66	<1	51	7
SJVAPCD Screening Level (lbs/day)	100	100	100	100	100	100
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Concurrent or Sequential Buildout Condition (2028+)[g]						
2028+ Scenario 1 Maximum Daily	3	2	57	<1	25	3
2028+ Scenario 2 Maximum Daily	1	2	7	<1	43	4
2028+ Scenario 3 Maximum Daily	1	2	15	<1	26	3
SJVAPCD Screening Level (lbs/day)	100	100	100	100	100	100
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur; O&M = operation and maintenance

a. Emissions from both on-site and off-site sources are included in the daily O&M estimates. The construction estimates in 2027 include only on-site emissions, consistent with SJVAPCD (2015) guidance.
b. PM_{10} and $PM_{2.5}$ emissions consist of exhaust and fugitive dust emissions. Dust results do not account for any water use for suppression or other controls. Construction modeling (2027) accounts for compliance with SJVAPCD Regulation VIII (water unpaved roads and active disturbance areas twice daily and limit vehicle speeds on unpaved roads). O&M emissions account for watering unpaved roads used by the water truck during panel washing, as well as a 25 mile per hour speed limit for the panel washing truck.
c. Rosemary Shared Facilities would be completed in summer 2026 but would not be operational until construction of Rosemary 1 is completed in early 2027. Thus, there are no overlapping O&M and construction emissions in 2026.
d. Accounts for O&M emissions from ongoing maintenance at Rosemary 1 with either panel washing or inspections (the higher of the two conditions for each pollutant). Vegetation maintenance would not occur in the first year of O&M due to the required establishment period.
e. Accounts for emergency generator testing O&M emissions from regular operations at Rosemary 4.
f. Accounts for maximum daily on-site emissions that would be generated by construction in 2027.
g. Analyzes estimated maximum daily emissions under four analysis scenarios identified in Section 4.1. These scenarios consider activities that could reasonably be conducted concurrently in a single day. Emissions would be generated annually for up to 40 years. Emissions will decline over time due to potential future technological advancements and regulations that could reduce emissions or improve equipment efficiency.

SOURCE: Appendix E1, Table 11

Table 3.4-8, *Rosemary Project Annual Combined Construction and O&M Criteria Air Pollutants*, summarizes estimated annual emissions for the sequential and concurrent buildout conditions. The emissions account for overlapping construction and partial O&M activities under the sequential buildout condition in 2027. Annual emissions at full Rosemary Project operations (i.e., after all construction is complete) account for emissions from all O&M activities at each site. Emissions are presented for regular facility maintenance, which assumes up to 12 hours of generator testing.

TABLE 3.4-8
ROSEMARY PROJECT ANNUAL COMBINED CONSTRUCTION AND O&M CRITERIA AIR POLLUTANTS

Year/Emissions Source	Maximum Daily Emissions (tons/year)					
	ROG	NO_x	CO	SO_x	PM_{10}[a]	$PM_{2.5}$[a]
Sequential Buildout Condition						
2027[b]						
Rosemary 1 O&M[c]	<1	<1	<1	<1	2	<1
Rosemary 2 O&M[d]	<1	<1	<1	<1	<1	<1
Rosemary 3 O&M[d]	<1	<1	<1	<1	<1	<1
Emergency Generator Testing O&M[c]	<1	<1	<1	<1	<1	<1
Rosemary 1 Construction[e]	<1	<1	<1	<1	<1	<1
Rosemary 2 and 3 Construction[f]	<1	2	5	<1	2	<1
Total (2027)	**<1**	**2**	**5**	**<1**	**5**	**1**
SJVAPCD Threshold (tons/year)	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Concurrent or Sequential Buildout Condition (2028+)[g]						
Rosemary 1	<1	<1	1	<1	2	<1
Rosemary 2	<1	<1	<1	<1	1	<1
Rosemary 3	<1	<1	<1	<1	1	<1
Emergency Generator Testing O&M	<1	<1	<1	<1	<1	<1
Total O&M	**<1**	**<1**	**1**	**<1**	**3**	**<1**
SJVAPCD Threshold (tons/year)	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur; O&M = operation and maintenance

a. PM_{10} and $PM_{2.5}$ emissions consist of exhaust and fugitive dust emissions. Construction modeling (2027) accounts for compliance with SJVAPCD Regulation VIII (water unpaved roads and active disturbance areas twice daily and limit vehicle speeds on unpaved roads). O&M emissions account for watering unpaved roads used by the water truck during panel washing, as well as a 25 mile per hour speed limit for the panel washing truck.
b. Rosemary Shared Facilities would be completed in summer 2026 but would not be operational until construction of Rosemary 1 is completed in early 2027. Thus, there are no overlapping O&M and construction emissions in 2026.
c. Rosemary 1 would be completed in early 2027. Accounts for 11 months of O&M emissions from ongoing maintenance, panel washing, and inspections at Rosemary 1 and 11 months of regular operations at Rosemary Shared Facilities. Vegetation maintenance would not occur in the first year of O&M due to the required establishment period.
d. Rosemary 2 and 3 would be completed in summer 2027. Accounts for 6 months of ongoing maintenance, panel washing, and inspection activity at Rosemary 2 and 3. Vegetation maintenance would not occur in the first year of O&M due to the required establishment period.
e. Accounts for emissions in 2027 that would be generated by construction of Rosemary 1.
f. Accounts for emissions in 2027 that would be generated by construction of Rosemary 2 and 3.
g. Emissions from O&M activities at each site (e.g., Rosemary 1) are summed. Emissions at Rosemary Shared Facilities are presented for a year with regular facility maintenance, which assumes up to 12 hours of generator testing. Emissions from all sites are summed to obtain total annual emissions for comparison to SJVAPCD thresholds. Total emissions would be generated annually for up to 40 years.

SOURCE: Appendix E1, Table 12

As shown in Table 3.4-8, combined annual emissions would not exceed SJVAPCD's significance thresholds. Therefore, the Rosemary Project O&M and construction activities 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 would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The resulting impact would be **less than significant**.

Decommissioning and Site Restoration

Decommissioning of the Rosemary Project would occur after approximately 40 years of operation and would have the potential to create short-term regional air quality impacts through the use of heavy-duty construction equipment, vehicle trips, and earthmoving. **Table 3.4-9**, *Maximum Daily and Annual Decommissioning Criteria Air Pollutants*, summarizes the estimated maximum daily and annual tons per year for ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions that would occur during decommissioning and site restoration. Emissions during this phase of the Rosemary Project would not exceed the SJVAPCD thresholds for any criteria pollutant, resulting in a **less-than-significant** impact.

TABLE 3.4-9
MAXIMUM DAILY AND ANNUAL DECOMMISSIONING CRITERIA AIR POLLUTANTS

Year	Pollutants					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily On-site Emissions (pounds/day)						
2067	7	21	73	<1	17	3
2068	3	10	34	<1	9	2
SJVAPCD Screening Level (lb/day)	100	100	100	100	100	100
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Emissions (tons/year)						
2067	<1	1	2	<1	<1	<1
2068	<1	<1	1	<1	<1	<1
SJVAPCD Significance Thresholds (ton/year)	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur

SOURCE: Appendix E1: Table 13

PG&E Project

Construction

PG&E Project construction activities would generate criteria pollutant emissions that would result in short-term effects on ambient air quality. Exhaust emissions would originate from off-road equipment and employee and truck vehicles (on-road vehicles on- and off-site). Vehicle travel over unpaved surfaces would also generate fugitive dust. The PG&E Project is not expected to require any site grading, earthmoving, paving, or architectural coatings. The PG&E Project construction emissions would be temporary (i.e., limited to the reconductoring period) and would cease when activities are complete. The PG&E Project emissions are presented below in **Table 3.4-10**, *PG&E Project Daily and Annual Construction Criteria Air Pollutant Emissions*. For the Project construction impact conclusion, refer to the *Combined Project Construction Emissions* discussion.

TABLE 3.4-10
PG&E PROJECT DAILY AND ANNUAL CONSTRUCTION CRITERIA AIR POLLUTANT EMISSIONS

Year	Pollutants					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Maximum Daily On-site Emissions (pounds/day)						
2026	1	5	5	<1	36	4
2027	1	5	4	<1	54	6
Annual Emissions (tons/year)						
2026	<1	<1	<1	<1	3	3
2027	<1	<1	<1	<1	2	2
Rolling 12-month total (March 2025 through February 2026	<1	<1	<1	<1	4	4

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur

SOURCE: Appendix E2: Table 9

Combined Project Emissions

Construction of the Project (i.e., the Rosemary Project and the PG&E Project) would generate emissions from the same sources as described above. The combined criteria pollutants generated by the Project construction activities and partial operation of the Rosemary Project in 2027 were modeled, and the detailed results can be found in **Appendix E2**. The summary results are presented in **Table 3.4-11**, *Project Daily and Annual Combined Construction and O&M Criteria Air Pollutant Emissions*. As shown below, the Project combined construction and operation activities would not result in emissions that would exceed SJVAPCD thresholds for criteria pollutants. In addition, on-site emissions associated with Rosemary Project and the PG&E Project construction combined with emissions from partial operation of the Rosemary Project in 2027 would not exceed 100 pounds per day. Thus, an AAQA would not be required and emissions from Project construction and operation are not expected to violate any air quality standard or contribute substantially to an existing or projected air quality violation at the Project site boundary. Thus, the Rosemary Project and the PG&E 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 would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The resulting impact would be **less than significant**.

Mitigation: None required.

TABLE 3.4-11
PROJECT DAILY AND ANNUAL COMBINED CONSTRUCTION AND O&M CRITERIA AIR POLLUTANT EMISSIONS

Year	Pollutants					
	ROG	NO_X	CO	SO_x	PM_{10}[a]	$PM_{2.5}$[a]
Maximum Daily Emissions[b]						
2026 Construction	5	48	63	<1	66	8
2027 Construction	5	44	63	<1	75	9
2027 O&M[c]	1	1	6	<1	21	2
2027 Total	6	46	69	<1	96	11
Maximum Daily Emissions (lb/day)	**6**	**48**	**69**	**<1**	**96**	**11**
SJVAPCD Screening Thresholds (lb/day)	100	100	100	100	100	100
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Emissions						
2026 Construction	<1	4	7	<1	6	1
2027 Construction	<1	3	5	<1	4	1
2027 O&M[c]	<1	<1	<1	<1	3	<1
2027 Total	<1	3	5	<1	7	1
Maximum Daily Emissions (ton/year)	**<1**	**4**	**7**	**<1**	**7**	**1**
SJVAPCD Annual Thresholds (tons/year)	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

NOTES: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_x = oxides of sulfur

a. PM10 and PM2.5 emissions consist of exhaust and fugitive dust emissions. Construction modeling accounts for compliance with SJVAPCD Regulation VIII (water unpaved roads and active disturbance areas twice daily and limit vehicle speeds on unpaved roads). O&M emissions account for watering unpaved roads used by the water truck during panel washing, as well as a 25 mile per hour speed limit for the panel washing truck.
b. Emissions from both on-site and off-site sources are included in the daily O&M estimates. The construction estimates in 2027 include only on-site emissions, consistent with SJVAPCD (2015) guidance.
c. The daily estimates account for O&M emissions from ongoing maintenance with either panel washing or inspections (the higher of the two conditions for each pollutant). The total annual estimates account for 11 months of O&M emissions from ongoing maintenance, panel washing, and inspections. Vegetation maintenance would not occur in the first year (2027) of O&M due to the required establishment period. Rosemary 2 and 3 would be completed in summer 2027 following completion of all construction. Therefore, O&M emissions for Rosemary 2 and 3 are not included in the maximum daily analysis because they would not overlap with construction. The total annual estimates account for 6 months of ongoing maintenance, panel washing, and inspection activity. Vegetation maintenance would not occur in the first year (2027) of O&M due to the required establishment period. The total annual estimates account for 11 months of emergency generator testing O&M emissions under non-emergency conditions.

SOURCE: Appendix E2: Tables 10 and 11

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

Air quality varies as a direct function of the quantity of pollutants emitted into the atmosphere, the size and topography of the air basin, and 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 considered 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.

Impact 3.4-3: The Rosemary Project would expose sensitive receptors to pollutant concentrations and risk of contracting Valley Fever. (*Less than Significant with Mitigation Incorporated*)

The nearest sensitive receptor to the Rosemary Project site is a single-family residence approximately 1.2 miles to the northwest of the Rosemary Project site.

Toxic Air Contaminants

Health impacts associated with TACs are generally associated with long-term exposure. Minimal emissions are expected on-site from routine maintenance, periodic PV panel washing activities, and periodic emergency generator testing, and off-site from employee and water truck trips to the Rosemary Project site. There are no meaningful sources of TACs associated with the operating phase of the Rosemary Project; therefore, operational health impacts related to TACs would be less than significant.

The greatest potential for TAC emissions to expose sensitive receptors would be during construction and decommissioning, when DPM emissions would be generated by heavy-duty equipment. The concentration of DPM emissions decreases dramatically as a function of distance from the source. For example, studies show that DPM concentrations at 1,000 feet from the source are reduced by more than 80 percent compared to concentrations directly at the source (CARB 2005). As noted, there are no sensitive receptors within 1,000 feet of the Rosemary Project site, with the nearest receptor approximately 1.2 miles (or more than 6,300 feet) away from the site. Consequently, DPM concentrations, and thus health risks, would be substantially reduced at the nearest sensitive receptor location, and the associated impact from construction TAC emissions would be less than significant.

Furthermore, the Rosemary Project would be consistent with the applicable SJVAPVD requirements and control strategies intended to reduce emissions from construction equipment and activities. The Rosemary Project would comply with the CARB Air Toxics Control Measure that limits diesel-powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these regulations would minimize emissions of TACs during construction.

Therefore, Rosemary Project construction, operation, and decommissioning activities would not expose sensitive receptors to substantial pollutant concentrations of TACs. This impact would be less than significant.

Mitigation: None required.

Localized Carbon Monoxide Hotspots

Exposure to high concentrations of CO can result in dizziness, fatigue, chest pain, headaches, and impairment of central nervous system functions. The Air Basin 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 cold-started vehicles operating at pollution-inefficient speeds, and/or operates on roadways crowded with non-project traffic.

Traffic counts for the transportation system in the Rosemary Project site vicinity have been analyzed for roadway segments to determine existing traffic operations and existing plus Rosemary Project conditions based on the LOS standards outlined in the Fresno County General Plan Update 2000 Draft EIR. All of the roadway segments studied (i.e., Kamm Avenue, west of State Route [SR] 145; SR 145, north of Kamm Avenue; and SR 145, south of Kamm Avenue) were found to currently operate at an acceptable LOS C or better and would continue to operate at LOS C or better with implementation of the Rosemary Project (see Appendix M, *Transportation Impact Study*, Table 12).

Based on the low background level of CO in the Air Basin (indicated by the lack of monitoring at the state or local level), and SJVAPCD's recommendation for lead agencies to consider local CO-related hotspot impacts to be significant if LOS on one or more streets at one or more intersections in the project vicinity would be reduced to LOS E or F, and/or if the project would substantially worsen an already existing LOS F on one or more streets at more one or more intersections in the project vicinity, the Rosemary Project would not expose sensitive receptors to substantial CO concentrations. Therefore, localized air quality impacts related to CO hot spots would be less than significant.

Mitigation: None required.

Localized Fugitive Dust

Exposure to fugitive dust at certain concentrations can irritate the respiratory system, especially for people who are naturally sensitive or susceptible to breathing problems. The primary sources of localized fugitive dust under the Rosemary Project would be earthmoving and vehicle travel over unpaved surfaces. These emissions would be controlled through adherence to SJVAPCD Regulation VIII. As shown in Table 3.4-5, construction of the Rosemary Project would not generate fugitive dust (PM) emissions above the analysis thresholds. Moreover, as noted above, there are no sensitive receptors within 1,000 feet of the Rosemary Project site. Because localized pollutant concentrations decline as a function of distance from the emission source, dust emissions generated by the Rosemary Project would be substantially reduced at the nearest receptor location. Accordingly, the Rosemary Project would not expose sensitive receptors to substantial fugitive dust concentrations. This would be a less-than-significant impact.

Mitigation: None required.

Regional Criteria Air Pollutants

The health effects that are associated with emissions of criteria pollutants are described in Section 3.4.1.2, *Environmental Setting*, above. As described in Section 3.4.1.3, *Regulatory Setting*, compliance with the ambient air quality standards indicates that regional air quality can be considered protective of public health. The ambient air quality standards are expressed in terms of the concentrations of individual pollutants within the air. With certain exceptions, given current air quality modeling tools, calculating an individual project's effect on ambient pollutant concentrations does not yield information that is accurate enough to be useful. Writing as amicus curiae in *Sierra Club v. Fresno County*, the SJVAPCD explained that "[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the National Ambient Air Quality Standards (NAAQS). Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task"

(SJVAPCD 2014b). Instead, the SJVAPCD explained that it assesses a project's potential to exceed NAAQS by evaluating the project's compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD 2014b).In addition, for projects that produce emissions for 2 years or less, this analysis is not meaningful because quantities of emissions are too small to have a statistically significant effect on health outcomes. An exception is for fine particulate matter from diesel exhaust. Concentrations of particulate matter exhaust from diesel-fueled equipment and vehicles can be used as a proxy for diesel particulate matter in a health risk assessment, which is a separate type of air quality analysis from the other criteria pollutants discussed herein (see the *Toxic Air Contaminants* discussion, above, which determined that Rosemary Project impacts for TACs would be less than significant).

Ozone, however, is a regional pollutant for which project-specific concentration modeling is not reliable given current modeling limitations. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases and given the state of environmental science modeling in use at this time, it is infeasible to convert Rosemary Project-related specific mass emissions levels (i.e., weight) of NOx or ROGs emitted in a particular area to a particular concentration of ozone in that area. Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone (SCAQMD 2014; SJVAPCD 2014b). Furthermore, available models are designed to determine regional, population-wide health impacts, from long-term emission sources and cannot accurately quantify ozone-related health impacts caused by NOx or ROG emissions from the local level, and in particular, not at the level of this individual project's construction emissions that last for less than 2 years.

The SJVAPCD's mass emission thresholds for ROG, NOx, and PM10 are tied to the offset requirements for ozone precursors and PM10 because the Air Basin is not in attainment with ozone, PM10, and PM2.5 standards and therefore such an approach is appropriate to identify potential to cause further deterioration of ambient air quality, which would be a regionally cumulative significant impact. As explained above, attainment can be considered protective of public health, thus providing a strong link between SJVAPCD's mass emission thresholds and avoidance of health effects.

As discussed above, construction, operation, and decommissioning of the Rosemary Project would not result in emissions that exceed the SJVAPCD's annual emissions thresholds for any of the air pollutants. Further, maximum daily emissions would be below the screening threshold for an AAQA and hence would not contribute to local exceedances of the NAAQS or the CAAQS. These standards are established at health protective levels and include an adequate margin of safety. Therefore, NOx emissions from Rosemary Project construction would not be anticipated to result in an adverse health effect with respect to emissions of NOx or ozone.

Specific ROGs may be categorized TACs; however, ROGs are not expected to present risk of health impacts from construction and decommissioning activities, which are largely conducted using equipment and trucks powered by diesel engines that have substantially fewer ROG emissions than gasoline powered motor vehicles. Potential health risks from DPM emissions generated by diesel equipment and trucks, discussed above, far outweigh the risks associated with ROG. Some ROGs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the SJVAPCD's significance thresholds or

AAQA screening thresholds. Additionally, the Rosemary Project would comply with SJVAPCD Rule 4641, which restricts the ROG content of certain types of asphalt for paving and maintenance operations. Therefore, ROG emissions from Project construction would not be anticipated to result in an adverse health effect with respect to emissions of ROG or ozone.

As further discussed above, construction, operation, and decommissioning of the Project would not exceed significance thresholds or AAQA screening thresholds for PM10 or PM2.5 and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter including fugitive dust. Because the Rosemary Project would not exceed thresholds for PM10 or PM2.5 during construction, operation, and decommissioning, health impacts related to particulate matter would be less than significant.

Valley Fever

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. Workers who disturb soil where fungal spores are found, whether by digging, operating earthmoving equipment, driving vehicles, or working in dusty windblown areas, are more likely to breathe in spores and to become infected. Such ground-disturbing activities represent a continual source of spores that contribute to the number of Valley Fever cases reported each year in the county (Fresno County 2024a). Construction and decommissioning activities associated with the Rosemary Project would result in localized ground-disturbing activities similar to those that occur continually in the County. Construction activities associated with the Rosemary Project would include ground-disturbing activities that could result in an increased potential to expose nearby residents and on-site workers to airborne spores, if they are present.

The AMPs described in Section 2.5.9.4 require appropriate worker training, dust management, safety procedures, precautions, and controls in a Dust Control and Valley Fever Management Plan. The Dust Control and Valley Fever Management Plan would comply with dust control measures required by SJVAPCD Rule 8021 would minimize personnel and public exposure to *Coccidioides* spores and reduce the potential risk of nearby residents and on-site workers to contract Valley Fever. In addition, pursuant to AB 203 and Section 6709 of the Labor Code, the construction contractor would be required to provide effective awareness training on Valley Fever to all employees before employees begin work that is reasonably anticipated to cause substantial dust disturbance.

Implementation of **Mitigation Measure 3.4-3** is recommended to require the proposed Dust Control and Valley Fever Management Plan described in Section 2.5.9.4 to include specific requirements to minimize personnel and public exposure to Valley Fever to the greatest extent possible. With implementation of Mitigation Measure 3.4-3, the risk of contracting Valley Fever impact for the Rosemary Project would be reduced to a less-than-significant level.

> **Mitigation Measure 3.4-3: Valley Fever Management Plan**
>
> Prior to the initiation of ground disturbing activities, a Valley Fever Management Plan shall be prepared and provided to the County for review and approval. The Plan shall be implemented as approved, and shall include a program to limit the potential for exposure to *Coccidioides* from construction activities and to identify appropriate worker training, dust management, and safety

procedures that shall be implemented. At a minimum, the Plan shall include the following program requirements:

- Equipment, vehicles, and other items shall be cleaned thoroughly of dust before they are moved off-site to other work locations.
- Wherever possible, grading and trenching work shall be phased so that earthmoving equipment operates well ahead or downwind of workers on the ground.
- The area immediately behind grading or trenching equipment shall be sprayed with water. If a water truck runs out of water before dust is dampened sufficiently, ground workers exposed to dust shall leave the area until a truck resumes water spraying.
- All heavy-duty earthmoving vehicles shall be closed-cab and equipped with a High Efficiency Particulate Air (i.e., HEPA) filtered air system.
- N95 dust masks shall be provided to on-site workers for the duration of the construction period.
- Workers shall receive training to recognize the symptoms of Valley Fever and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Fresno County Planning and Community Development Department.
- A Valley Fever informational handout shall be provided to all on-site construction personnel. The handout shall provide, at a minimum, information regarding the symptoms, health effects, preventive measures, and treatment.

Significance after Mitigation: Less than Significant.

Impact 3.4-4: The PG&E Project would expose sensitive receptors to pollutant concentrations and risk for contracting Valley Fever. (*Less-than-Significant Impact*)

The nearest sensitive receptor to the PG&E Project alignment is the single-family residence adjacent to the Helm Substation property, located approximately 80 feet from the alignment.

Toxic Air Contaminants

Although construction equipment would be operated as close as approximately 80 feet from the nearest sensitive receptor during construction of a portion of the reconductored transmission line, construction activities would move linearly and would not occur in the same location for the duration of construction. Based on guidance from the California Office of Environmental Health Hazard Assessment, construction activities occurring near sensitive receptors for more than 2 months would potentially result in a significant impact (OEHHA 2015). Based on the timing and intensity of the PG&E Project construction, it is estimated that construction equipment would only operate within approximately 1,000 feet of any sensitive receptor for less than 1 month during the reconductoring activities. Construction within the substation facilities would not occur within approximately 1,000 feet of any sensitive receptors. Therefore, the health risk impact from construction TAC emissions for the PG&E Project would be less than significant.

In addition, the PG&E Project would be implemented consistent with PG&E best management practices and construction measures (such as proper vehicle maintenance and speed limits) and other applicable SJVAPVD requirements and CARB Air Toxics Control Measure that limit diesel-powered equipment and

vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation that would minimize emissions of TACs during construction.

Regarding the potential for the PG&E Project to result in long-term exposure to TACs, operation and maintenance of the reconductored transmission line would not change relative to PG&E's current practices, which require minor maintenance activities that would not result in significant TAC emissions; therefore, the PG&E Project would cause no impact once reconductoring and substation upgrades are complete regarding any increase in TAC emissions relative to baseline conditions, and no impact from associated increased health risk.

Mitigation: None required.

Localized Carbon Monoxide Hotspots

The PG&E Project would generate up to a maximum of 55 daily one-way vehicle trips during construction; the trips would be dispersed throughout the local transportation network and not concentrated at a single intersection and would not substantially worsen CO hotspots at local intersections. Based on the low background level of CO in the Air Basin (indicated by the lack of monitoring at the state or local level), the relatively low level of new construction-related trips, and the dispersed nature of the trips, the PG&E Project would not create new CO hotspots. Therefore, it would not expose sensitive receptors to substantial CO concentrations, and localized air quality impacts related to CO hot spots would be less than significant.

Mitigation: None required.

Localized Fugitive Dust

PG&E Project activities would not generate fugitive dust (PM) emissions above the analysis thresholds. Moreover, as noted above, there is only one sensitive receptor within 1,000 feet of the PG&E Project. Emissions would primarily be spread over the 5-mile reconductoring alignment and not concentrated at this one location. Because localized pollutant concentrations decline as a function of distance from the emission source, dust emissions generated by the PG&E Project would be substantially reduced at the next nearest receptor locations. Accordingly, the PG&E Project would not expose sensitive receptors to substantial fugitive dust concentrations. This would be a less-than-significant impact.

Regional Criteria Air Pollutants

See above regarding the health effects that are associated with emissions of criteria and ambient air quality standards. As discussed above, construction and operation of the PG&E Project would not result in emissions that exceed the SJVAPCD's annual emissions thresholds for any of the air pollutants. Further, maximum daily emissions would be below the screening threshold for an AAQA and hence would not contribute to local exceedances of the NAAQS or the CAAQS. These standards are established at health protective levels and include an adequate margin of safety. Therefore, NOx emissions from PG&E Project construction would not be anticipated to result in an adverse health effect with respect to emissions of NOx or ozone.

As further discussed above, construction and operation of the PG&E Project would not exceed significance thresholds or AAQA screening thresholds for PM10 or PM2.5 and would not contribute to

exceedances of the NAAQS and CAAQS for particulate matter including fugitive dust. Because the PG&E Project would not exceed thresholds for PM10 or PM2.5 during construction and operation, health impacts related to particulate matter would be less than significant.

Valley Fever

Construction activities associated with the PG&E Project would result in localized ground-disturbing activities, but they would be much smaller than ground disturbing activities required for the Rosemary Project. Thus, construction activities associated with the PG&E Project is not expected to expose nearby residents and on-site workers to airborne spores. Further, PG&E would implement best management practices during construction (such as speed limits) and would comply with dust control measures required by SJVAPCD Rule 8021, which would minimize personnel and public exposure to Valley Fever and reduce the potential risk of nearby resident and on-site worker exposure to Valley Fever, and also would comply with applicable state laws, such as. Additionally, compliance AB 203 and Section 6709 of the Labor Code, that would result in awareness training on Valley Fever for all employees. Thus, impacts associated with Valley Fever for the PG&E Project would be less than significant.

Mitigation: None required.

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

The Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. (*No Impact*)

Per Section 8.6 of SJVAPCD's Guidance document, any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact. Odors would be generated from vehicles and equipment exhaust emissions during construction and decommissioning of the Project. However, neither the Rosemary Project nor the PG&E Project would produce objectionable odors that would affect a substantial number of people. Odors produced during construction (and for the Rosemary Project, decommissioning) would be attributable to concentrations of unburned hydrocarbons from tailpipes of heavy-duty equipment and would be temporary and localized and would disperse and dissipate rapidly from the source. Thus, the Rosemary Project and the PG&E Project would not cause substantial odors at the closest sensitive receptors. Therefore, odors associated with construction and decommissioning would not result in a nuisance to sensitive receptors or any surrounding land uses, and there would be no impact.

During operation, the Rosemary Project would not introduce any potential sources of odors beyond the use of vehicles for routine inspection and maintenance and equipment used to facilitate activities. O&M activities would be minimal and would not result in substantial odors. Once reconductoring is complete, the PG&E Project would not cause other emissions (such as those leading to odors) in any different locations or volumes than occurs under existing (baseline) conditions, which would be minimal and limited to vehicles used for routine maintenance. For these reasons, the Rosemary Project and the PG&E Project would cause no impact during operation and maintenance.

3.4.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.4-12**, *Summary of Project Impacts on Air Quality*, summarizes the air quality impacts of the Project as a whole.

TABLE 3.4-12
SUMMARY OF PROJECT IMPACTS ON AIR QUALITY

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒
e) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐

3.4.4 Cumulative Effects

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

Impact 3.4-1c: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect relating to conflict with or obstruction of the implementation of the applicable air quality plan. (*Less-than-Significant Impact*)

The geographic scope considered for potential cumulative effects on regional air quality and associated air quality plans is the Air Basin, which is governed by SJVAPCD, and the temporal scope is the same general construction, operational, and decommissioning timeframes of the Project. The Air Basin 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 Air Basin is classified as non-attainment for the state 24-hour and annual arithmetic mean PM_{10} standards, non-attainment for the state annual arithmetic mean and national 24-hour $PM_{2.5}$ standards, and maintenance for the federal PM10 standard (SJVAPCD 2024a). As described under Impact 3.4-1, the SJVAPCD has adopted air quality plans designed to attain these standards in the Air Basin. Therefore, there is an existing adverse cumulative effect relative to meeting the objectives of the air quality plans.

The contribution of a project's individual air 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. Although a significant cumulative air quality impact exists in non-attainment regions exceeding the federal and/or state standards, the Project-level thresholds for criteria air pollutants are based on levels at which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Because the Rosemary Project and the PG&E Project construction emissions would be below SJVAPCD screening levels and significance thresholds, the Project's incremental contribution to the cumulative effect in the region would not be considered cumulatively considerable. Additionally, as discussed under Impact 3.4-1, the Rosemary Project and the PG&E Project would not conflict with or obstruct the implementation of SJVAPCD's air quality plans. Therefore, Rosemary Project and the PG&E Project construction and decommissioning would not result in a cumulatively considerable increase in emissions of non-attainment pollutants. The contribution of Rosemary Project and the PG&E Project construction and decommissioning emissions to the cumulative air quality impact in the region would be less than significant.

Rosemary Project operation would include minimal emissions of ozone precursors ROG and NO_x, PM_{10}, and $PM_{2.5}$, well below SJVAPCD's screening levels and significance thresholds; therefore, O&M for the Rosemary Project would not result in a cumulatively considerable increase in emissions of non-attainment pollutants and the associated cumulative effect would be less than significant. For the PG&E Project, **no impact** relating to criterion a) would occur because the project would cause no net change relative to existing (baseline) conditions once reconductoring is complete. The Rosemary Project's and the PG&E Project's cumulative effect related to conflicting with or obstructing implementation of the applicable air quality plans would be less than significant.

Mitigation: None required.

Criteria b and e) Whether the Project would generate a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard or violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Impact 3.4-2c: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect associated with a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard or violate any air quality standard or contribute substantially to an existing or projected air quality violation. (*Less-than-Significant Impact*)

The geographic scope considered for potential cumulative effects to regional air quality is the Air Basin, which is governed by SJVAPCD, and the temporal scope is the same general construction, operational, and decommissioning timeframes of the Project. The Air Basin 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 Air Basin is classified as non-attainment for the state 24-hour and annual arithmetic mean PM_{10} standards and the state annual arithmetic mean and national 24-hour $PM_{2.5}$ standards (SJVAPCD 2024a). Therefore,

there is an existing adverse cumulative effect in the Air Basin relative to increased emissions of criteria pollutants and attainment of the ambient air quality standards.

As described above in Impact 3.4-2, the Rosemary Project and the PG&E Project would not result in a cumulatively considerable contribution to non-attainment criteria pollutants. Project emissions of pollutants for which the Air Basin is in attainment for the federal and state air quality standards (e.g., CO and SO_x) would not lead to a cumulative effect because the individual Rosemary Project and the PG&E Project emissions would be well below the SJVAPCD screening levels and significance thresholds in an area where there is no existing adverse cumulative effect associated with those pollutants. Therefore, cumulative effects related to generating a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard and violations of air quality standards would effect be l**ess than significant**.

Mitigation: None required.

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

Impact 3.4-3c: The Rosemary Project would not cause a cumulatively considerable contribution to any significant cumulative effect associated with exposure of sensitive receptors to pollutant concentrations and risk of contracting Valley Fever. (*Less-than-Significant Impact*)

SJVAPCD considers TAC emissions to result in localized impacts. The geographic scope considered for potential cumulative effects on sensitive receptors is cumulative projects within 1,000 feet of sensitive receptors if the sensitive receptors are also within 1,000 feet of the Rosemary Project, and the temporal scope is the same general construction, operational, and decommissioning timeframes of the Rosemary Project. As described in Table 3.1-1, *Cumulative Projects List*, the closest past project to the Rosemary Project site is the San Joaquin Solar project 1 mile to the east, which has been operational since 2018; and the closest pending project is the Main Steet Townhomes project over 5 miles to the north, which. Therefore, there are no other projects in the immediate vicinity of the Rosemary Project that could contribute to cumulative health impacts on sensitive receptors or Rosemary Project construction workers related to exposure of pollutant concentrations or risk of contracting Valley Fever. Further, there are no sensitive receptors within 1,000 feet of the Rosemary Project site.

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 exceeding the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015a). However, in the case of the Rosemary Project, a qualitative analysis was conducted, and the SJVAPCD's significance thresholds were not used to assess TAC impacts because there are no sensitive receptors within 1,000 feet of the site. As discussed under Impact 3.4-3, the Rosemary Project's construction, operation, and decommissioning would not result in significant health impacts related to TACs.

SJVAPCD also considers cumulative CO impacts to be accounted for in a CO hotspot analysis (SJVAPCD 2015a). As discussed above, construction and decommissioning-related traffic is not

anticipated to create a CO hotspot, as emissions would not be concentrated and would be dispersed rapidly. In addition, there is no existing adverse cumulative CO impact. Therefore, impacts to sensitive receptors regarding potential CO hotspots resulting from the Rosemary Project's contribution to cumulative traffic-related air quality impacts would be less than significant.

Finally, implementation of fugitive dust control measures by the Rosemary Project and other cumulative projects in the area consistent with Rule 8021 would reduce exposure to Coccidioides immitis spores that cause Valley Fever. In addition, the Applicant would be required to help ensure that all independently enforceable protections of worker safety and health are in place and implemented. The Rosemary Project's incremental contribution to cumulative Valley Fever-related impacts would be less than significant.

Therefore, the Rosemary Project would not be cumulatively considerable contributor to local impacts related to TACs, CO impacts, and Valley Fever. Therefore, the Rosemary Project's contribution to the cumulative effect on sensitive receptors would be **less than significant**.

Mitigation: None required.

Impact 3.4-4c: The PG&E Project would not cause a cumulatively considerable contribution to a significant cumulative effect associated with exposure of sensitive receptors to pollutant concentrations and risk of contracting Valley Fever. (*Less-than-Significant Impact*)

The geographic scope considered for potential cumulative effects on sensitive receptors is cumulative projects within 1,000 feet of sensitive receptors if the sensitive receptors are also within 1,000 feet of the PG&E Project, and the temporal scope is the same general construction, operational, and decommissioning timeframes of the PG&E Project. As described in Table 3.1-1, *Cumulative Projects List*, the closest past project to the PG&E Project is the San Joaquin Solar project 1 mile to the east of the southern end of the alignment, which has been operational since 2018; and the closest pending project is the Main Steet Townhomes project 1.5 miles to the north of the alignment. Therefore, there are no other projects within 1,000 feet of the PG&E Project that could contribute to cumulative health impacts on sensitive receptors or PG&E Project construction workers related to exposure of pollutant concentrations or risk of contracting Valley Fever.

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 exceeding the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015a). However, in the case of the PG&E Project, a qualitative analysis was conducted and the SJVAPCD's significance thresholds were not used to assess TAC impacts because no individual sensitive receptors would be exposed to TAC emissions for longer than 2 months. No cumulative projects would result in TAC emissions that affect the same receptors as the PG&E Project. As discussed under Impact 3.4-4, the PG&E Project's construction would not result in significant health impacts related to TACs. Once reconductoring is complete, the PG&E Project would cause **no impact** that could contribute to potential cumulative effects.

SJVAPCD also considers cumulative CO impacts to be accounted for in a CO hotspot analysis (SJVAPCD 2015a). As discussed above, construction and operational traffic for the PG&E Project would be limited

and would not create a CO hotspot. In addition, there is no existing adverse cumulative CO impact. Therefore, impacts to sensitive receptors regarding potential CO hotspots resulting from the PG&E Project's contribution to cumulative traffic-related air quality impacts would be less than significant.

Finally, implementation of best management practices and compliance with applicable regulations for the PG&E Project, as well as implementation of fugitive dust control measures by cumulative projects in the area, would reduce exposure to Coccidioides immitis spores that cause Valley Fever. The PG&E Project's incremental contribution to cumulative Valley Fever-related impacts would be less than significant.

Therefore, the PG&E Project's impact would not be a cumulatively considerable contributor to local impacts related to TACs, CO impacts, and Valley Fever, and the PG&E Project's contribution to the cumulative effect on sensitive receptors would be **less than significant**.

Mitigation: None required.

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

As analyzed in Section 3.4.3.3, *Direct and Indirect Effects of the Project*, in the context of criterion d), the Rosemary Project and PG&E Project would cause **no impact** relating to the generation of other emissions (such as those leading to odors) adversely affecting a substantial number of people. Therefore, the Rosemary Project and PG&E Project would not cause or contribute to any cumulative effect regarding criterion d).

3.4.5 References

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3.5 Biological Resources

This section identifies and evaluates issues related to biological resources, including vegetation, wetlands, aquatic and other habitat, and wildlife resources. The 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. Comments received during the scoping period pertaining to biological resources include those from the Defenders of Wildlife and the California Department of Fish and Wildlife (CDFW). See **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the following Project-specific technical reports prepared by ICF: Rosemary Biological Resources Technical Report (**Appendix F1**), Aquatic Resources Delineation Report for the Rosemary Solar Project (**Appendix F2**), PG&E Reconductoring Biological Resources Technical Report (**Appendix F3**), and Aquatic Resources Delineation Report for the Helm to Crescent Reconductoring Project (**Appendix F4**). 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 the preparation of the EIR.

3.5.1 Setting

3.5.1.1 Study Area

The study area for the Project consists of both the Rosemary Project site and the PG&E Project route, with a buffer of 500 feet. The approximate 1,172-acre Rosemary Project site is located in the western portion of Fresno County, within the San Joaquin (3612052) U.S. Geological Survey 7.5-minute quadrangle, west of California State Route 145, approximately 25 miles southwest of the City of Fresno and 4 miles west of the unincorporated town of Helm (Figure 2-1 in Chapter 2, *Project Description*). The center of the Project site is located at 36.523815°N, -120.188381°W. The Rosemary Project site is bounded by West Kamm Avenue to the north, West Conejo Avenue to the south, South Yuba Avenue to the east, and South El Dorado Avenue to the west, in addition to a small 5.43-acre area located between South Yuba Avenue and the western boundary of PG&E's existing Crescent Switching Station. The PG&E Project starts at the PG&E Helm Substation east of South Placer Avenue (Figure 2-1). The route continues south along South Placer Avenue for 1 mile, east along West Floral Avenue for 0.5-mile, south along South Yuba Avenue for 3 miles, and continues east along West Kamm Avenue to connect to the PG&E Crescent Switching Station.

3.5.1.2 Environmental Setting

The study area is in the central San Joaquin Valley of California, characterized by hot, dry summers and low annual precipitation. Elevations in the study area range from 163 to 189 feet above sea level. Land use in the study area includes active agricultural lands, undeveloped and/or fallowed agricultural lands to the north, south, west, and east; energy infrastructure to the east and west; vehicle access along maintained access roads; a residential property in the northern study area; the PG&E Helm Substation and disturbed and nonnative grasslands in the northeast corner of the study area; and the PG&E Crescent Switching Station and adjacent disturbed and nonnative grasslands in the southeast corner of the study area. The Fresno Slough intersects the study area on South Yuba Avenue (Figure 2-1). Most land in the

vicinity is used for agriculture; a fertilizer manufacture/supplier and solar photovoltaic generating facilities are also located in the vicinity (Appendices F1, F3).

Vegetation Communities

As shown in **Figure 3.5-1**, *Vegetation Communities on the Rosemary Solar Site*, and **Figure 3.5-2**, *Vegetation Communities on the PG&E Reconductoring Route*, the following land cover types were mapped within the study area: agricultural fields, nonnative annual grassland, ruderal/disturbed lands, agricultural ditch, canals, managed slough, and freshwater wetland.

Agricultural Fields

The dominant land cover type on the Rosemary Project site is general agriculture. Farming practices on the site include soil discing and tilling; crop planting/production, mainly safflower (*Carthamus tinctorius*); and herbicide application; as well as regular maintenance and disturbance of areas under agricultural production. Historically, agricultural production on the site has included dry-farmed (unirrigated) agricultural production of wheat and grazing fodder (Appendix F1).

Nonnative Annual Grassland

Both the Rosemary Project site and the PG&E Project site have nonnative annual grassland along the perimeters. Within these areas, the dominant grass species are slender oat (*Avena barbata*), ripgut brome *(Bromus diandrus),* soft chess (*Bromus hordeaceus*), false barley (*Hordeum murinum*), and fiddleneck (*Amsinckia* sp.). Co-dominant species include small fescue (*Festuca microstachys*), shining pepper grass (*Lepidium nitidum*), and adobe popcornflower (*Plagiobothrys acanthocarpus*) (Appendices F1, F3).

Ruderal/Disturbed Lands

Ruderal and disturbed areas are portions of the Project site that have been altered from their natural state by human influence and are barren or contain sparse, weedy vegetation. This cover type includes paved and dirt roads and cleared areas. Vegetation in these areas is highly variable but often includes a mix of nonnative annual grasses and weedy forbs. Ruderal plant species on the Project site include mustard (*Brassica* sp.), false barley, cheat grass (*Bromus* sp.), vinegarweed (*Trichostema lanceolatum*), storksbill (*Erodium* sp.), cheeseweed (*Malva parviflora*), and Russian thistle (*Salsola tragus*) (Appendix F1).

Agricultural Ditch

On-site agricultural ditches are excavated in uplands, receive pumped water, and do not realign natural features or serve a historic drainage function. They are managed for water transport for agricultural purposes and are not connected via surface water to any relatively permanent, standing or continuously flowing bodies of water. Agricultural ditches are dominated by nonnative annual grasses and ruderal plant species. There are agricultural ditches along the perimeters of the Rosemary Project site and along the PG&E Project route (Appendix F2, Appendix A; Figure 3.5-2; Appendix F4, Appendix A).

Canals

Canals are excavated channelized features used for the conveyance of water, similar to mapped agricultural ditches but wider and often concrete-lined. These features are also excavated in uplands, receive pumped water, and do not realign natural features or serve a historic drainage function. Canals are managed for water transport for agricultural purposes but are not connected via surface water to any relatively permanent, standing, or continuously flowing bodies of water (Appendix F2; Appendix F4).

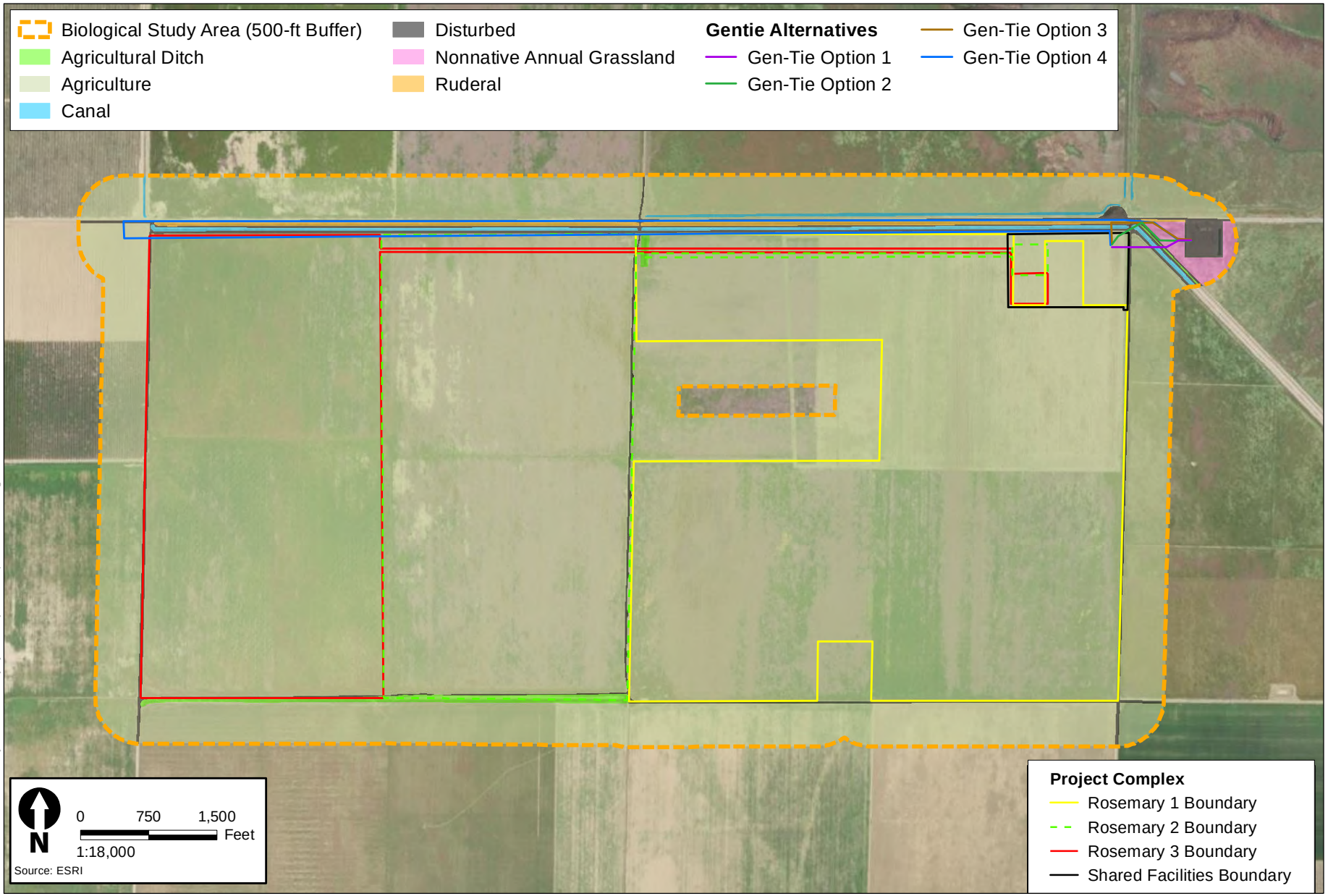
A 2.15-mile section of the San Luis Drain is located outside of, but parallel to, the northern boundary of the Project site (south of Kamm Avenue), overlapping with gen-tie line options 1, 2, and 3 (Figure 3.5-1). This drain, which is part of the U.S Bureau of Reclamation-administered Central Valley Project, is a manmade concrete-lined canal that was built to funnel agricultural drainage water for discharge into the Sacramento–San Joaquin Delta. Scattered vegetation is present on the slopes and in the drain, including prickly lettuce (*Lactuca serriola*), narrow-leaf milkweed (*Asclepias fascicularis*), Russian thistle, and non-native annual grasses. Additionally, unnamed canals are located north of Kamm Avenue and parallel to South Yuba Avenue along the PG&E reconductoring route (Appendix F2, Appendix A; Appendix F3; Appendix F4).

Managed Slough

The PG&E Project route also includes managed sloughs classified as *Palustrine – Unconsolidated Bottom* (Cowardin et al. 1979). Many of these features are created, while some appear to be natural features. These sloughs are currently managed by screw-gated culverts, which allow for the manipulation of water levels. Fresno Slough is considered one of these features as are the small managed sloughs connected to it. As these features have a surface connection to Fresno Slough, which is a tributary to the San Joaquin River, they would be considered jurisdictional features (waters of the United States and the state) (Appendix F3; Appendix F4).

Freshwater Wetland

The PG&E Project route includes freshwater wetlands classified as Palustrine – Emergent (Cowardin et al. 1979). Five of the wetlands appear to receive water via a managed slough system through screw-gated culverts, which receive water from Fresno Slough. These features are dominated by herbaceous wetland vegetation, including narrow-leaved cattail (*Typha angustifolia*), Baltic rush (*Juncus balticus* ssp. *ater*), and rabbitsfoot grass (*Polypogon monspeliensis*). These five features could support a relatively permanent surface connection with Fresno Slough and therefore the San Joaquin River. In addition, there are two isolated freshwater wetlands in depressions along the PG&E Project route (Appendix F3; Appendix F4).

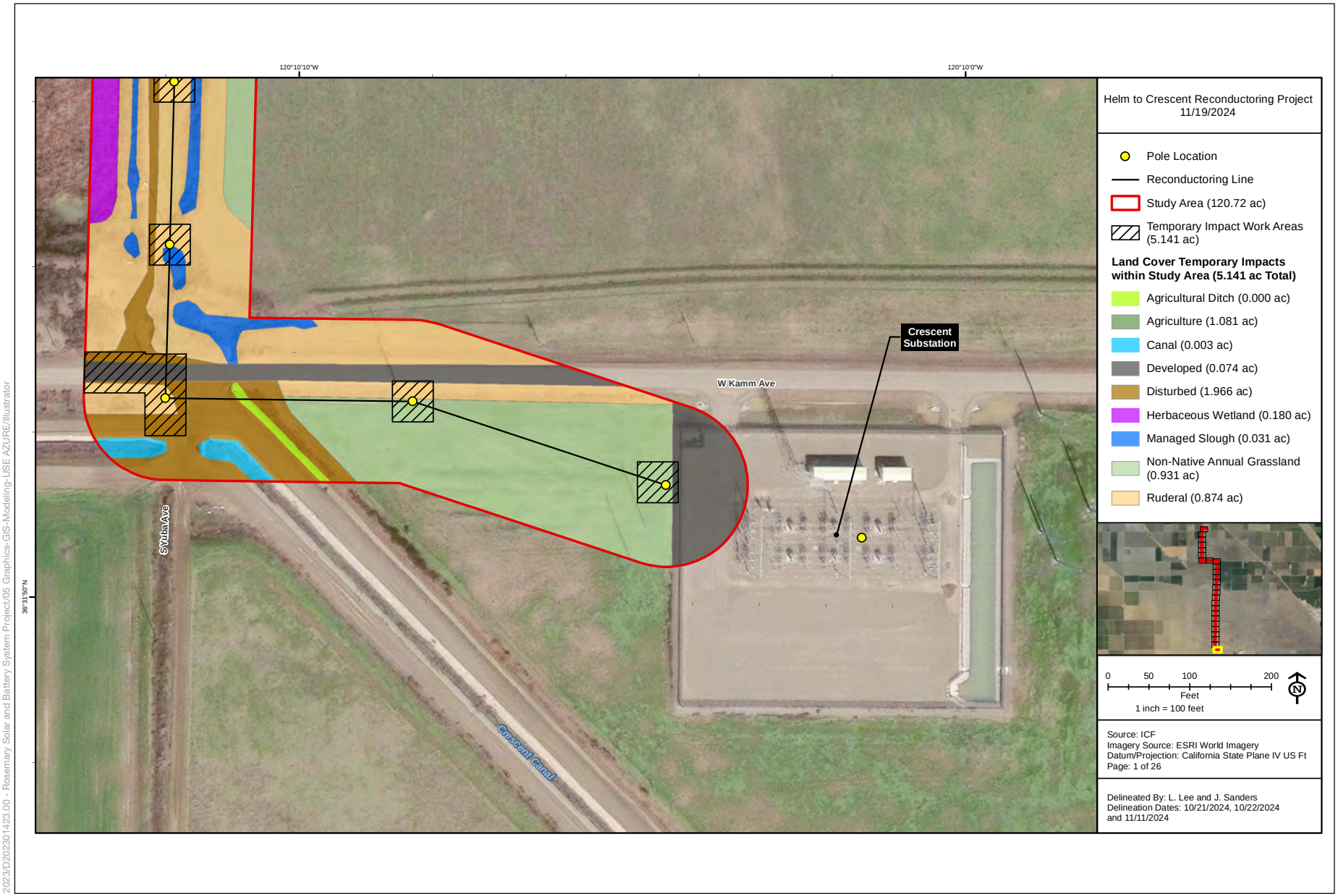


SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.5-1
Vegetation Communities on the Rosemary Solar Site

ESA



SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.5-2
Vegetation Communities on the PG&E Reconductoring Route

ESA



SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.5-2
Vegetation Communities on the PG&E Reconductoring Route

ESA



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SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.5-2
Vegetation Communities on the PG&E Reconductoring Route

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SOURCE: ICF, 2024

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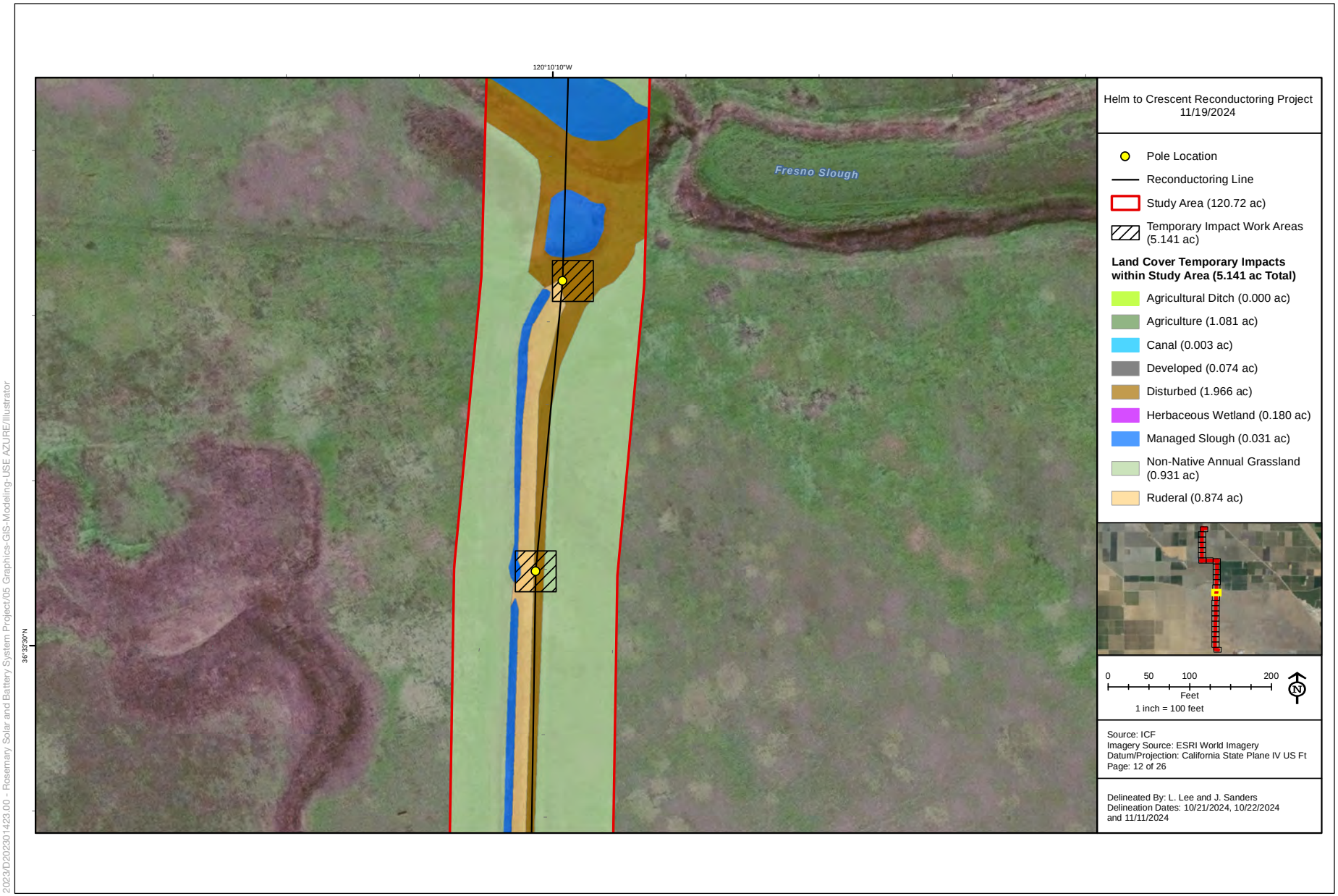
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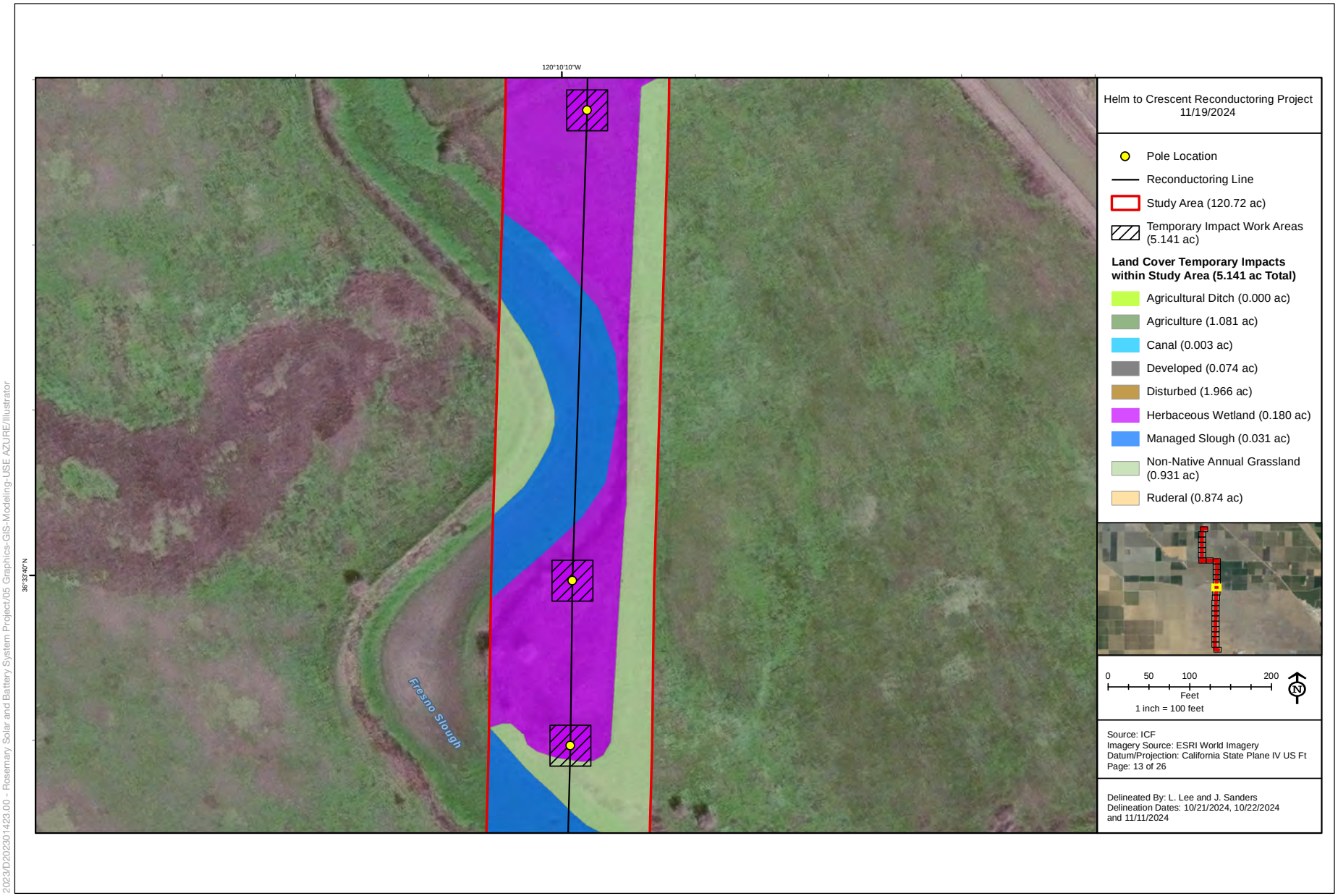
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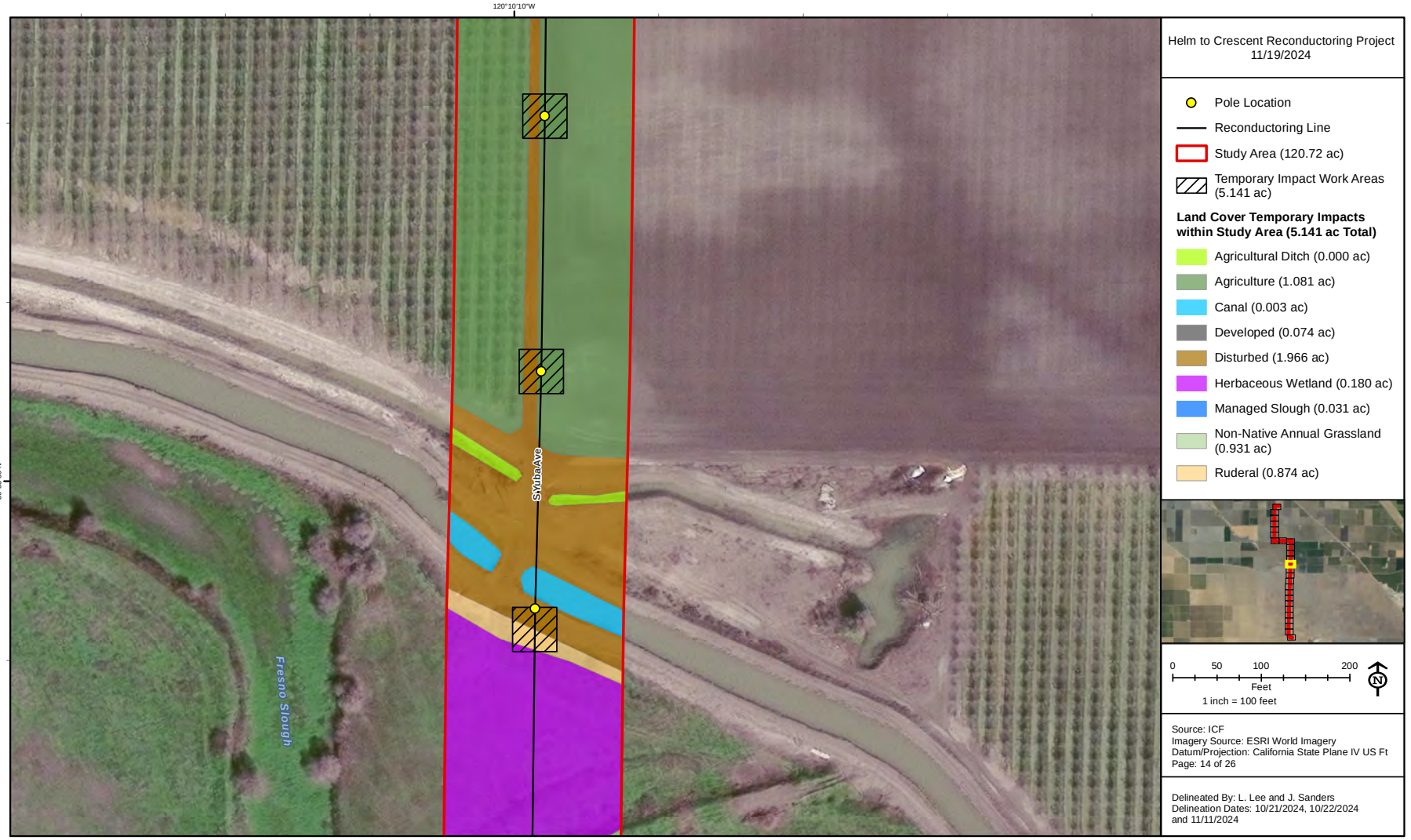
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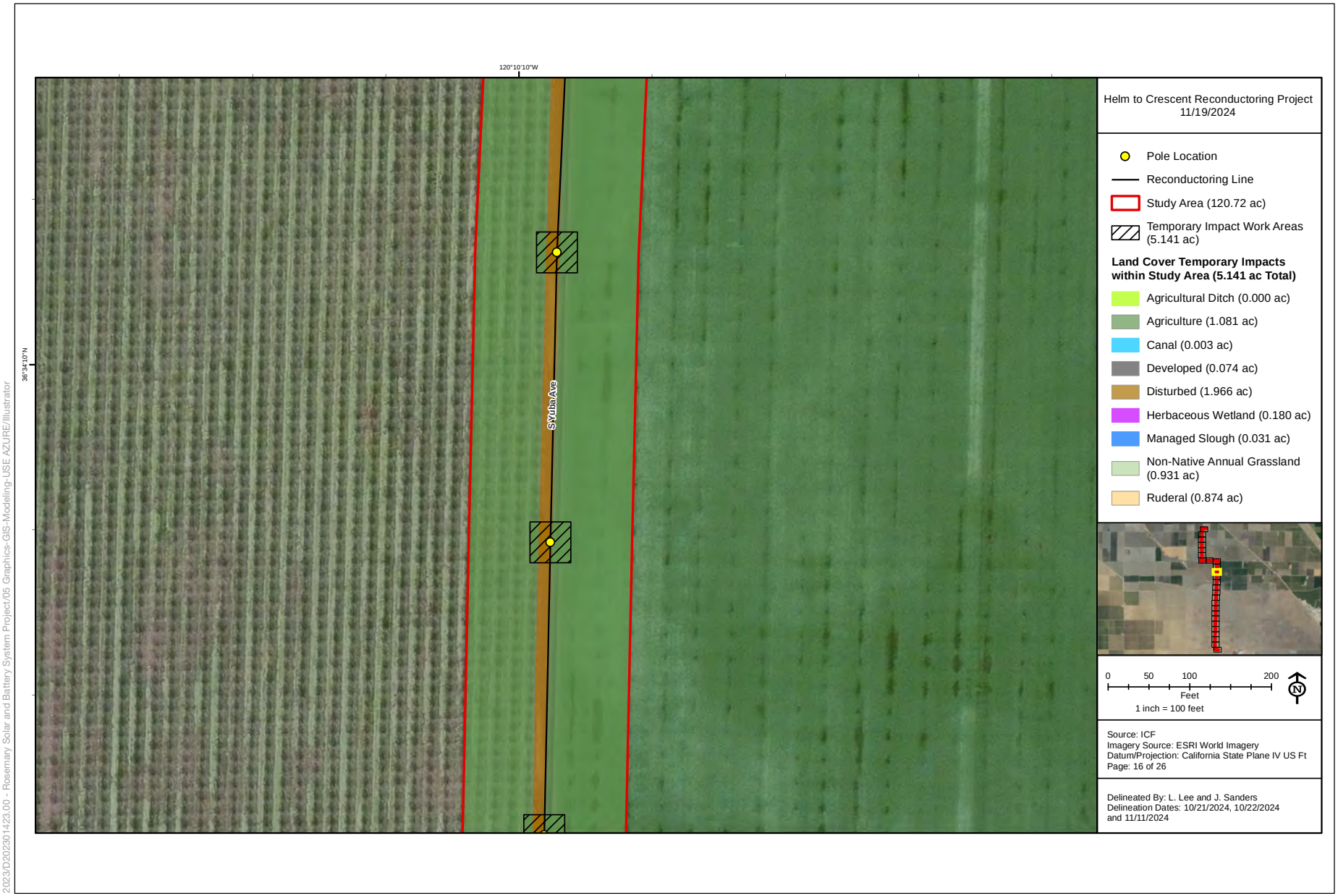
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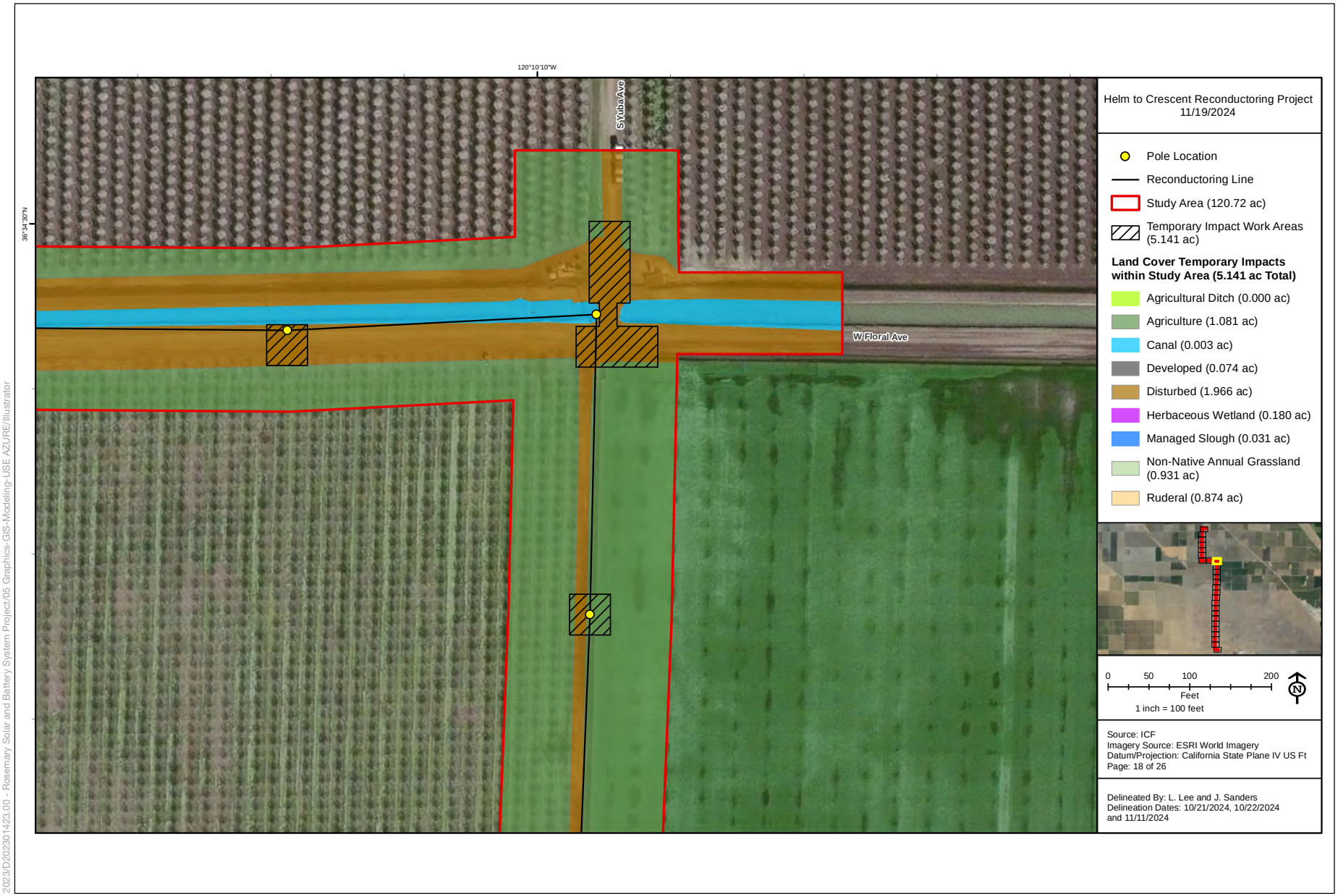
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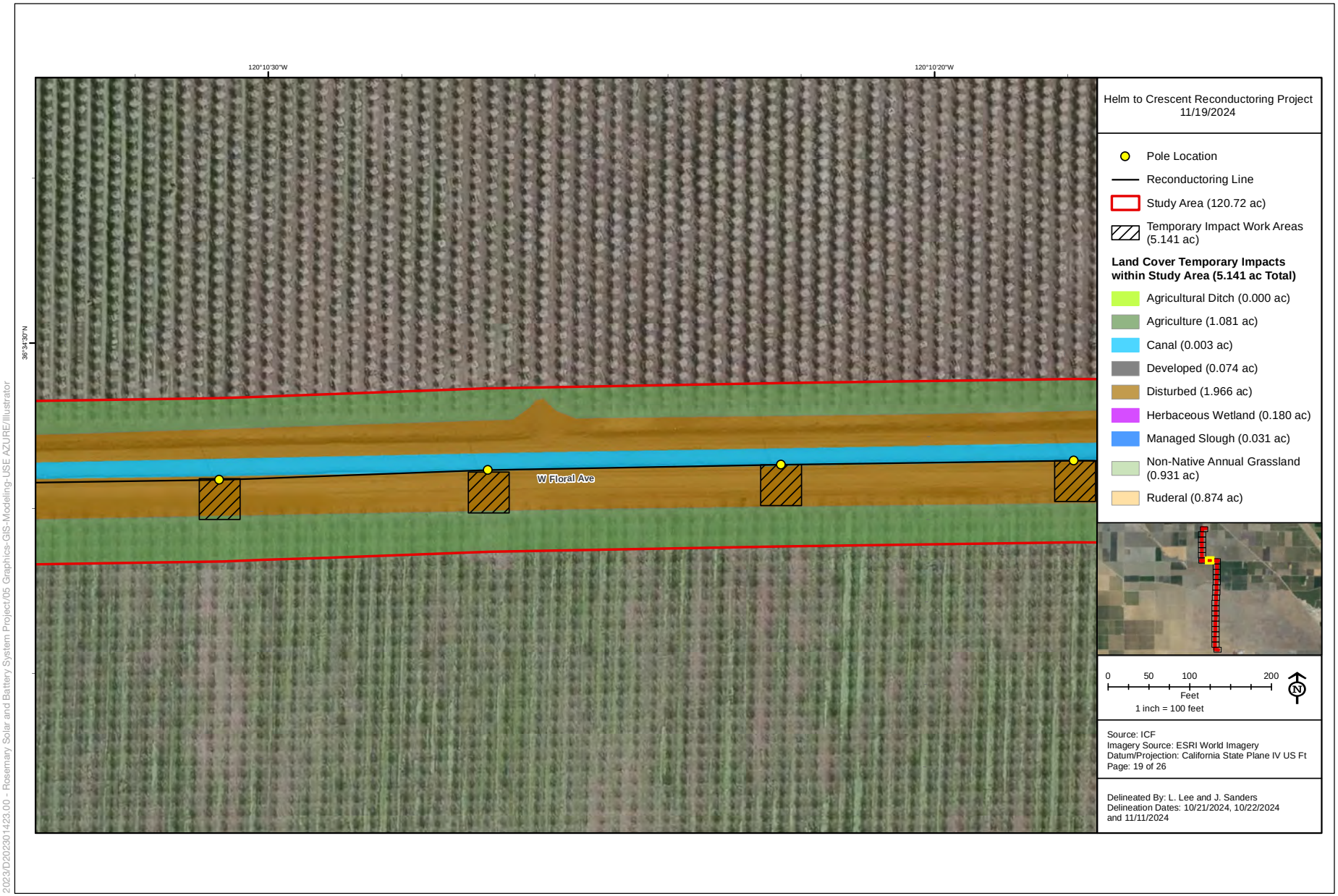
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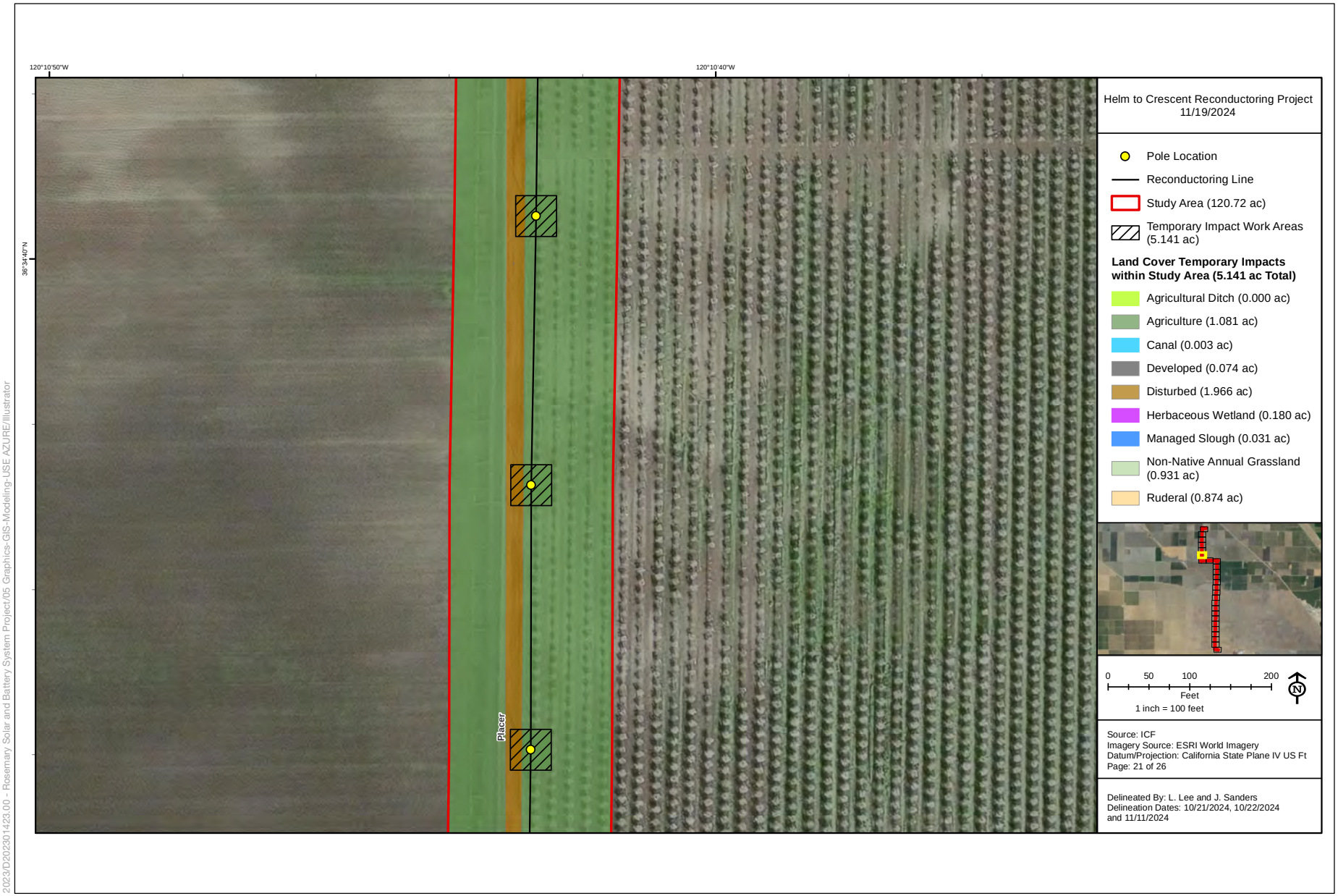


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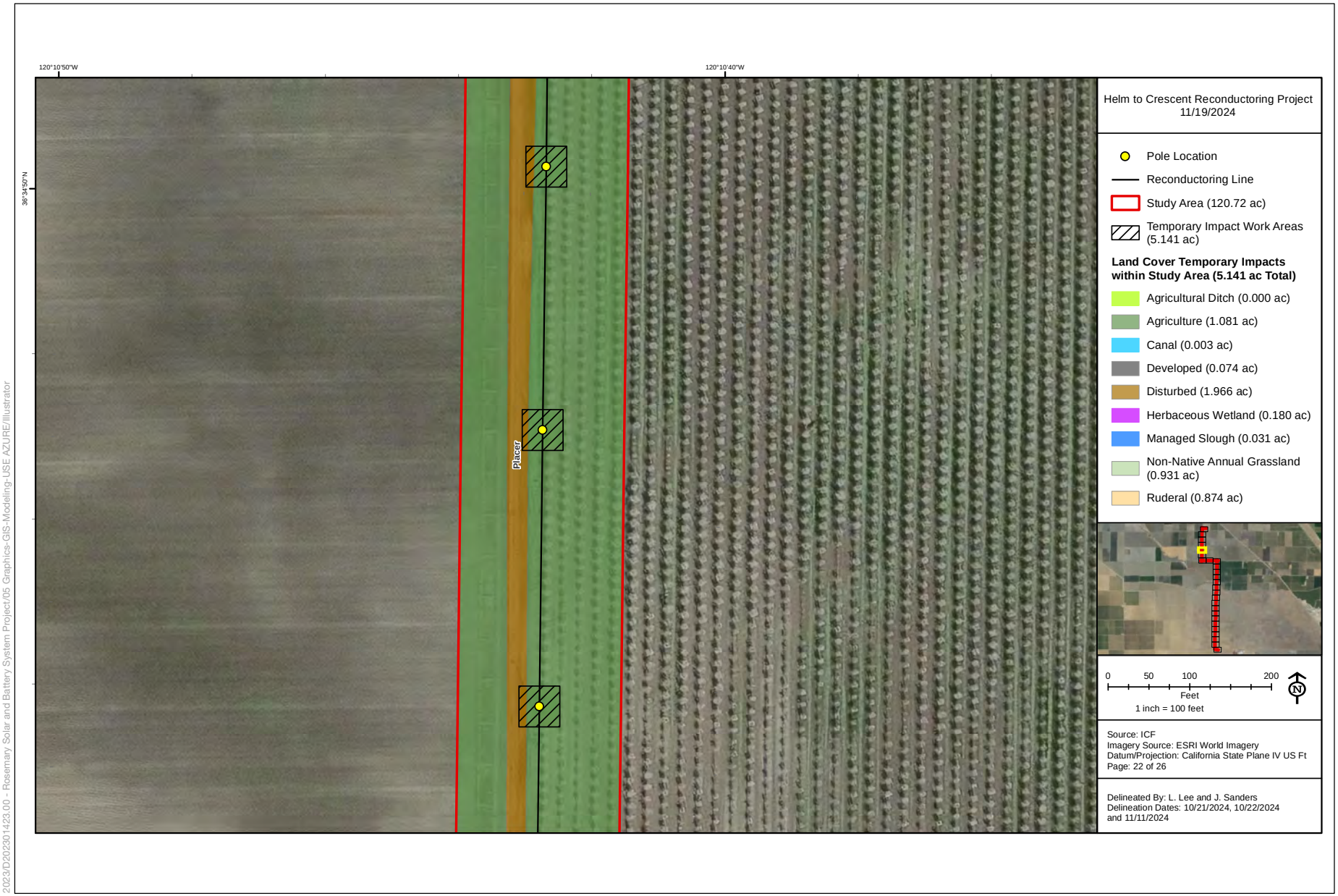
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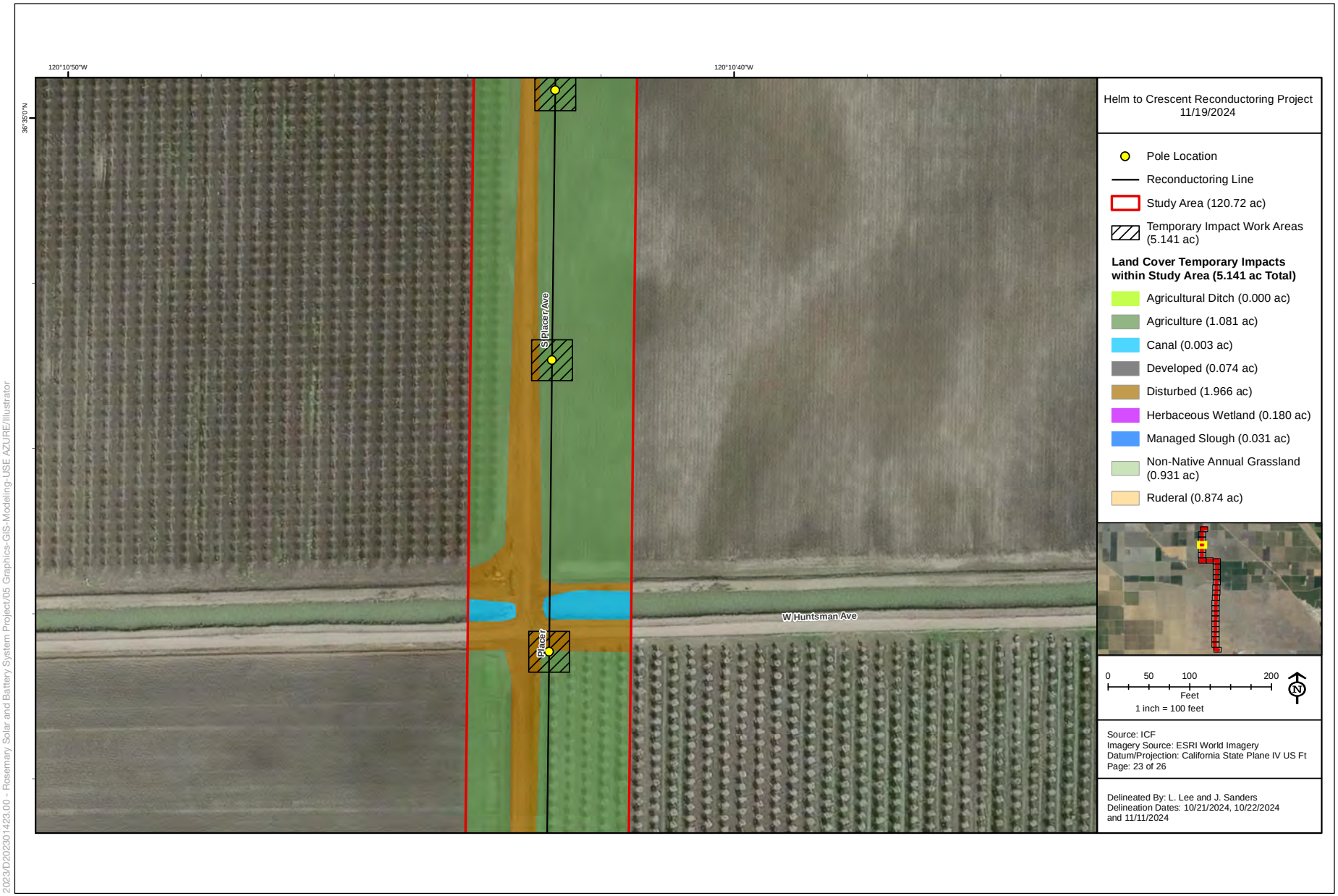
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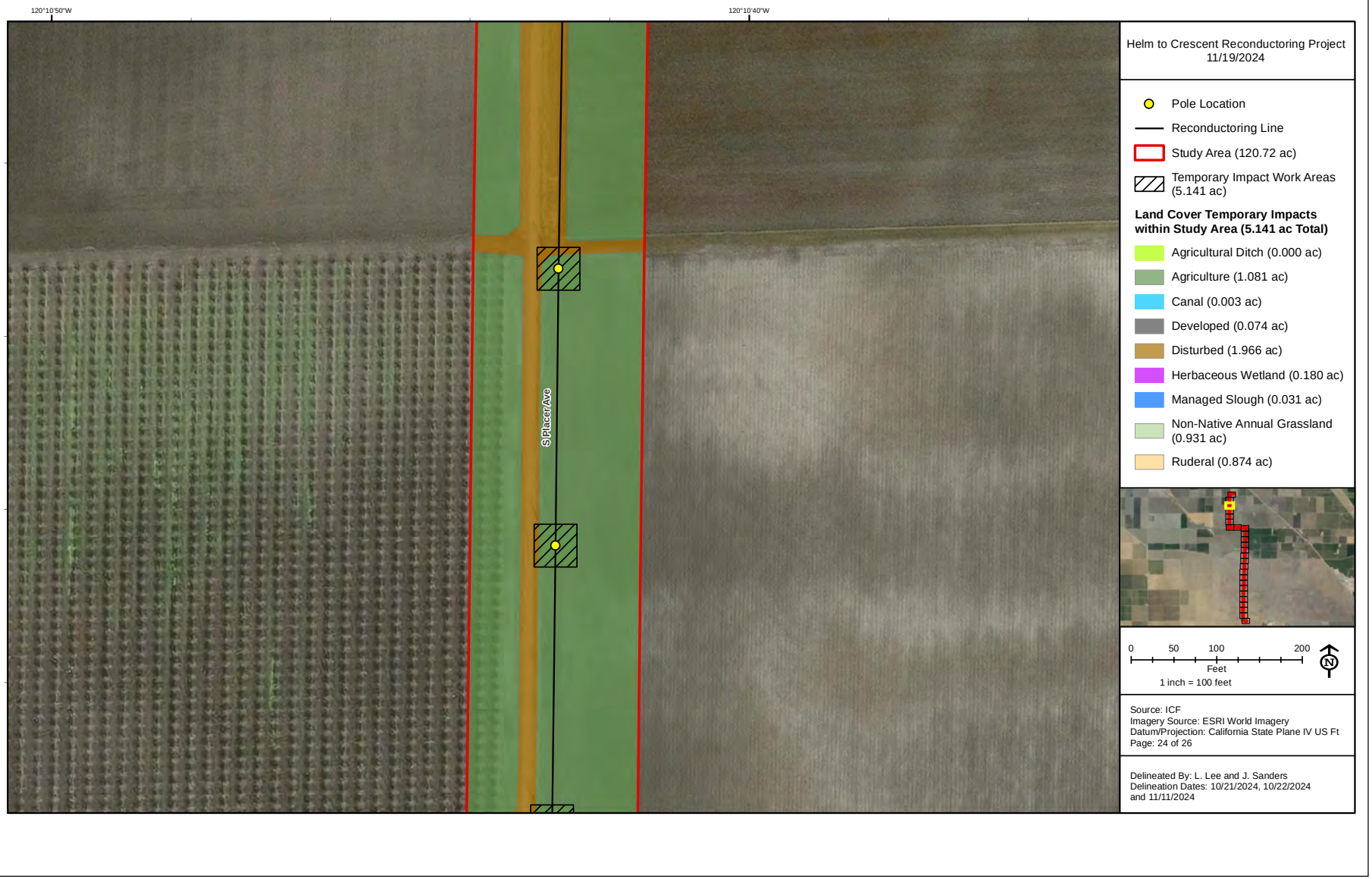
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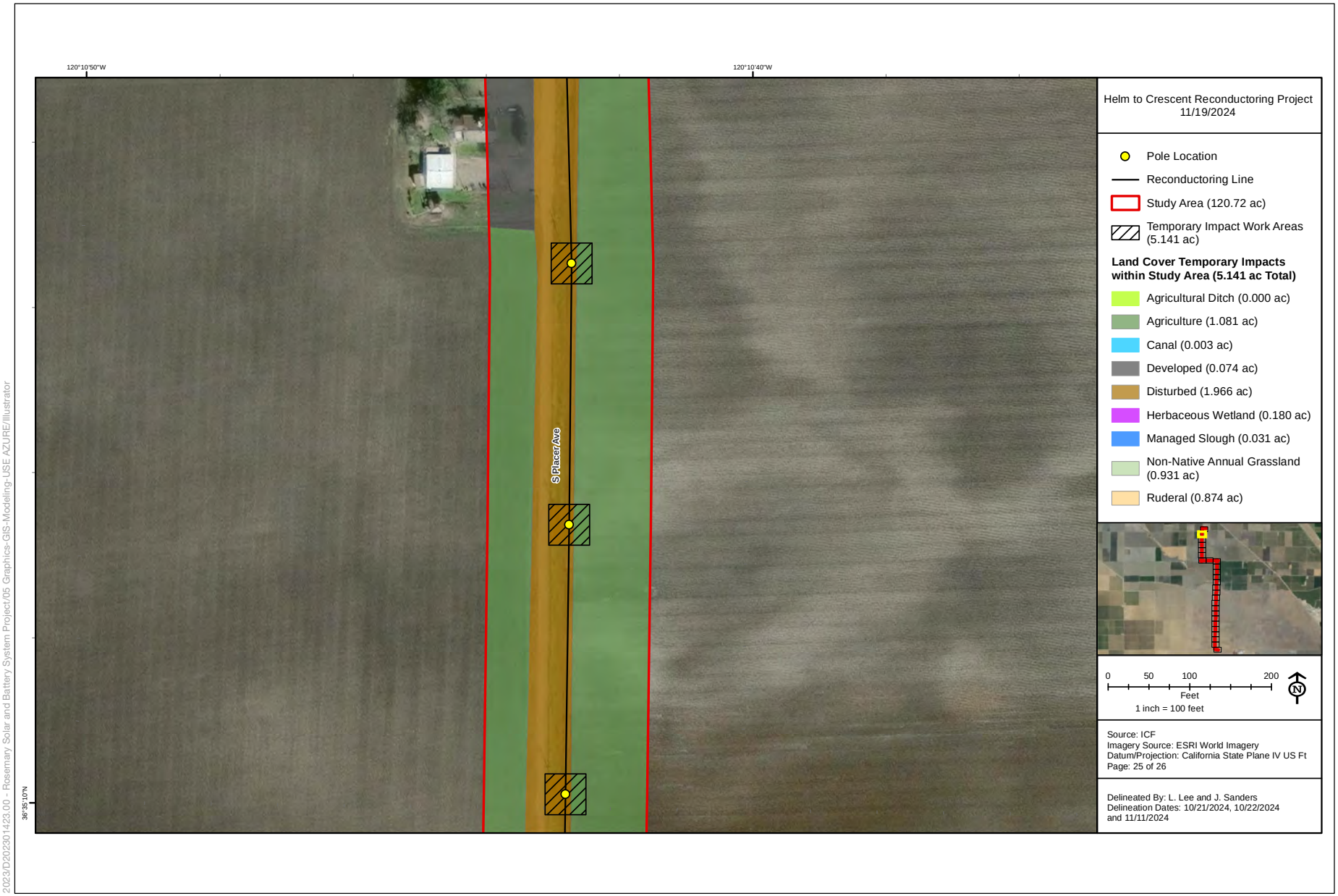
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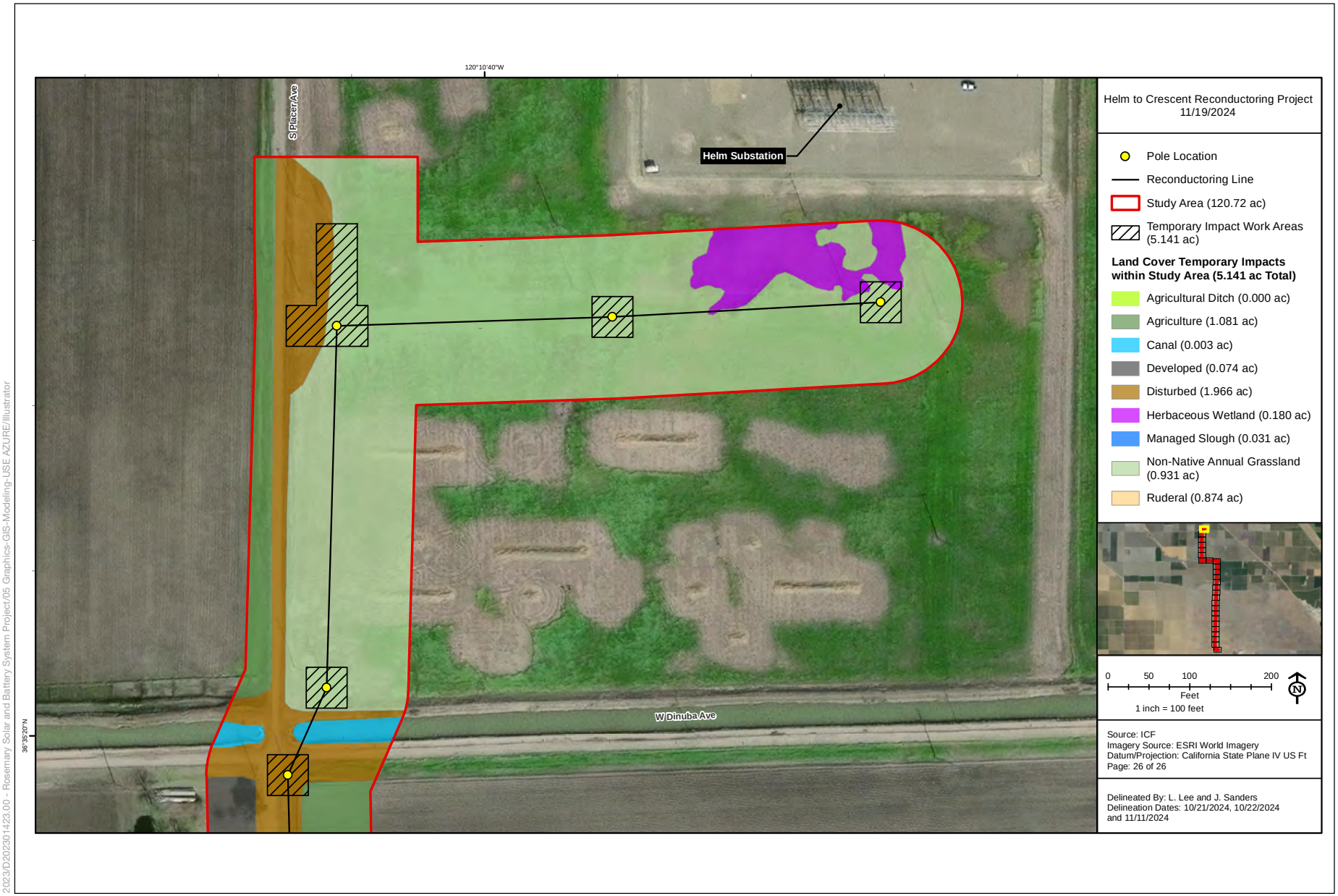
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Rosemary Solar and Energy Storage System Complex

Figure 3.5-2
Vegetation Communities on the PG&E Reconductoring Route

ESA



SOURCE: ICF, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.5-2
Vegetation Communities on the PG&E Reconductoring Route

ESA

Special-Status Species

Special-status species Table BIO-1 (**Appendix F5**) identifies the special-status plant and wildlife species that occur in the study area based on the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS), and U.S. Fish and Wildlife Service (USFWS) databases (CDFW 2025; CNPS 2025; USFWS 2025), as well as vegetation, soils, elevation, and other factors. **Figure 3.5-3**, *CNDDB Occurrences within 5-Miles of the Project*, shows the special-status plant and wildlife species recorded within 5 miles of the Project site (CDFW 2025). Species with moderate or higher potential to occur or for which focused surveys were conducted on-site are discussed below. Focused biological resources surveys were conducted for Crotch's bumble bee, western burrowing owl, and Swainson's hawk on the Rosemary Project site (Appendix F1). Desktop analysis and reconnaissance surveys were conducted on the PG&E Project site.

Plants

The following special-status plants have moderate potential to occur along the PG&E Project route. No special-status plants have potential to occur on the Rosemary Project site due to frequent ground disturbance from agricultural discing.

Heartscale

Heartscale (*Atriplex cordulata var. cordulata*) is an annual herb that blooms from April to October. It has a California Rare Plant Rank of 1B.2, indicating it is rare, threatened, or endangered in California. Heartscale is endemic to the Central Valley of California and is commonly found in alkali soils within grassland and scrub habitats (CNPS 2025). This species has moderate potential to occur in nonnative annual grassland present along the PG&E Project route (Appendix F3).

Earlimart Orache

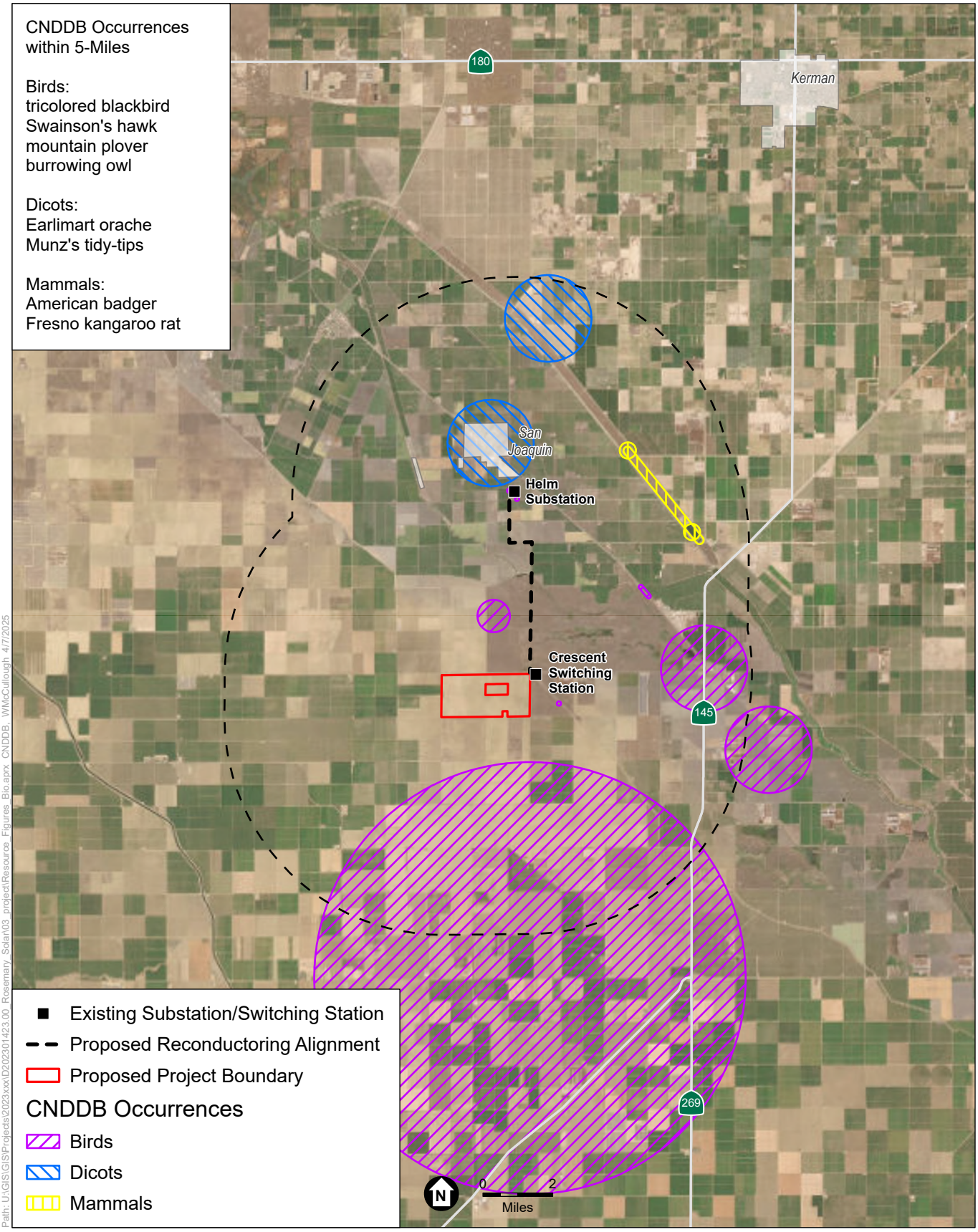
Earlimart orache (*Atriplex cordulata var. erecticaulis*) is an annual herb which blooms from April to October. Earlimart orache has a California Rare Plant Rank of 1B.2 and is endemic to the Central Valley of California. It is commonly found in alkali flats and grasslands (CNPS 2025). This species has moderate potential to occur in nonnative annual grassland present along the PG&E Project route (Appendix F3).

Brittlescale

Brittlescale (*Atriplex depressa*) is an annual herb that blooms from April to October. It has a California Rare Plant Rank of 1B.2 and is endemic to the Central Valley. It is commonly found in alkali sinks and grasslands (CNPS 2025). This species has moderate potential to occur in nonnative annual grassland present along the PG&E Project route (Appendix F3).

Subtle Orache

Subtle orache (*Atriplex subtilis*) is an annual herb that blooms from April to October. Subtle orache has a California Rare Plant Rank of 1B.2 and is endemic to California. It is commonly found in grasslands and vernal pool habitats (CNPS 2025). This species has moderate potential to occur in nonnative annual grassland present along the PG&E Project route (Appendix F3).



Source: CDFW, 2025; ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 3.5-3
CNDDB Occurrences within 5-Miles of the Project

ESA

Recurved Larkspur

Recurved larkspur (*Delphinium recurvatum*) is a perennial herb that blooms from March to May. Recurved larkspur is endemic to the Central Valley of California and has a California Rare Plant Rank of 1B.2. It is commonly found in alkaline soils within grasslands and scrub habitats (CNPS 2025). This species has moderate potential to occur in nonnative annual grassland present along the PG&E Project route (Appendix F3).

Munz's Tidy-Tips

Munz's tidy-tips (*Layia munzii*) is an annual herb that blooms from March to April. Munz's tidy-tips has a California Rare Plant Rank of 1B.2 and is endemic to the western San Joaquin Valley and inner Coast Ranges of California. It is found in alkaline clay soils, chenopod scrub, or valley and foothill grassland (CNPS 2025). This species has moderate potential to occur in nonnative annual grassland present along the PG&E Project route (Appendix F3).

San Joaquin Woollythreads

San Joaquin woollythreads (*Monolopia congdonii*) is an annual herb that blooms from February to May. It has a California Rare Plant Rank 1B.2 and is federally listed as endangered. This species is endemic to the San Joaquin Valley and occurs in chenopod scrub, valleys, and foothill grasslands. This species prefers arid land with sparse vegetation and can grow in areas that have been partially disturbed from agriculture, silviculture, or aquaculture (USFWS 2010b). Because disturbed land or grassland on the Project site may host this species, it has moderate potential to occur (Appendix F3).

Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is a perennial herb that blooms from May to October. Sanford's arrowhead has a California Rare Plant Rank of 1B.2 and is found in wetlands and slow-moving shallow waters in California. (CNPS 2025). The agricultural ditch, canal, and managed slough features at the Project site provide suitable habitat for this species (Appendix F3).

Wildlife

San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) is federally listed as endangered and state-listed as threatened. Historically, San Joaquin kit fox distribution extended throughout the San Joaquin Valley and the surrounding foothills of the Coast Ranges. 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, especially the Ciervo-Panoche core area to the south (USFWS 2010a). San Joaquin kit foxes burrow in annual grasslands or grassy, open areas with scattered shrubby vegetation. The species requires loose-textured sandy soils for burrowing and a suitable prey base of rodents for forage. San Joaquin kit foxes may venture into agricultural lands for dispersal or foraging but are unlikely to reside there because of frequent disturbance.

Two records of this species occur within 10 miles of the Project site to the north and northeast (CDFW 2025). Although the Rosemary Project site is of low habitat value for San Joaquin kit fox because of active agricultural activities (and likely coyote activity; Appendix F1), nonnative grassland and stream washes on the PG&E Project site provide potential habitat for this species for denning, foraging, or

dispersal. Fresno Slough, in particular, is the preferred dispersal habitat for this species. There is moderate potential for San Joaquin kit fox to occur in these areas of the Project site (Appendix F3).

Fresno Kangaroo Rat

Fresno kangaroo rat (*Dipodomys nitratoides exilis*) is a federal endangered species. This species is endemic to the San Joaquin Valley, primarily inhabiting arid grasslands and scrublands with sandy soils suitable for burrowing. Historically, its range extended across the valley floor, but habitat loss due to agricultural development has significantly reduced its distribution. Fresno kangaroo rats are nocturnal and solitary, spending the day in burrows to avoid predators and extreme temperatures. They are granivorous, primarily feeding on seeds, but also consume green vegetation and insects. Breeding occurs from January to May, with females producing one to three litters per year, each consisting of two to five young. Six documented CNDDB occurrences of Fresno kangaroo rat are within 10 miles (CDFW 2025), and there is suitable sandy, open grassland habitat for the species in washes along the PG&E Project route, while the Rosemary Project site is of low habitat value (Appendix F3).

American Badger

American badger (*Taxidea taxus*) is a state species of special concern. The species is found across North America, from southern Canada to northern Mexico. They inhabit open areas such as prairies, grasslands, and deserts, preferring regions with loose, sandy soils. The species is primarily nocturnal and solitary, except during the breeding season. They are fossorial, spending much of their time digging extensive burrow systems. Their diet mainly consists of small mammals like ground squirrels and pocket gophers, but they may also eat birds, reptiles, and insects. Breeding occurs in late summer and early fall, with delayed implantation resulting in births occurring in late winter or early spring, when females give birth to one to five young. The young are weaned at about two months and disperse in late summer. Evidence of this species was not observed during surveys on the Rosemary Project site (Appendix F1). There are two documented CNDDB occurrences of American badger within 10 miles (CDFW 2025), and suitable habitat is present in grasslands and sandy washes within the study area (Appendix F3).

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 (CDFG 2016). 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.

Suitable foraging habitat is present throughout the Project site and suitable nesting habitat in the northern portion of the PG&E Project route (Appendix F3). There are over 15 CNDDB nesting records within 10 miles (CDFW 2025). Suitable nesting habitat is not present on the Rosemary Project site; the nearest suitable nesting habitat is located 0.8-mile south. One individual was observed foraging near the site during the survey (Appendix F1). This species has moderate potential to nest in suitable trees on-site (in the northern portion of the PG&E Project route) and high potential to occur while foraging.

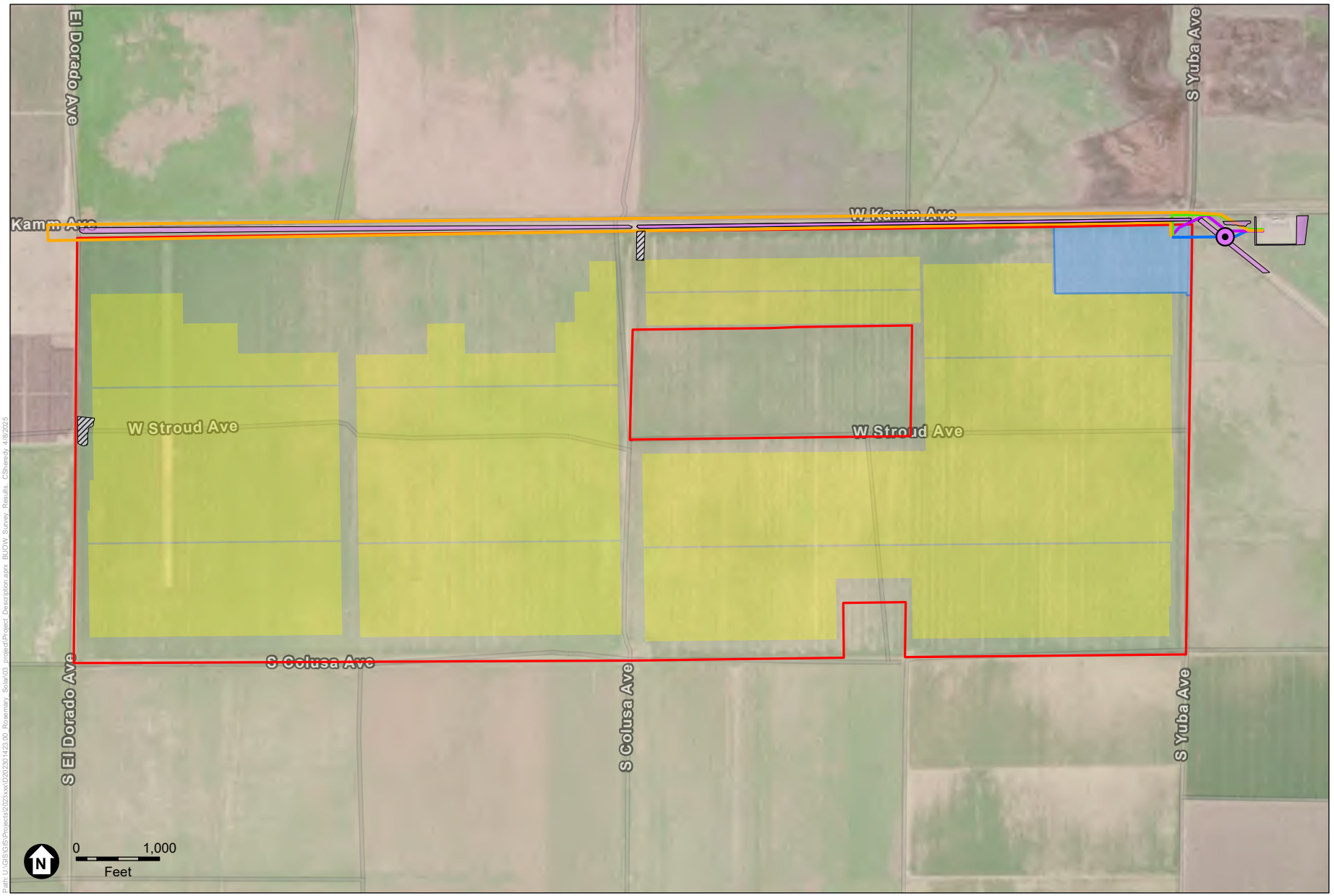
Western Burrowing Owl

Western burrowing owl (*Athene cunicularia hypugea*) is a state species of special concern and a state candidate threatened species. Western 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 small-mammal burrows for nesting, roosting, cover, and catching prey; they do not dig their own burrows. In California, western burrowing owls most commonly live in burrows created by California ground squirrels. Burrowing owls may occur in disturbed landscapes, such as agricultural areas, ruderal grassy fields, vacant lots, and pastures where usable burrows are present, provided that suitable foraging habitat exists nearby. Debris piles, riprap, culverts, and pipes may be used as burrow substitutes. Although the burrowing owl has experienced population reductions 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 focused surveys in 2024, one burrowing owl was observed in a burrow along the San Luis Drain and multiple burrows with owl sign were noted in the agricultural ditches adjacent to the Project site, for a total of 1.83 acres of occupied burrow habitat on the Rosemary Project site (Appendix F1) (see **Figure 3.5-4**, *Burrowing Owl Survey Results*). There are nine CNDDB occurrences within 10 miles, with the nearest (from 2014) located 0.6 mile east of the site (CDFW 2025). This species is considered present due to occupied burrows on limited portions of the Rosemary Project site. Suitable habitat also exists along the PG&E Project route, although focused, Project-specific surveys were not conducted in this area (Appendix F3).

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor)* is a highly colonial species that is largely endemic to California. Tricolored blackbird breeding colony sites require open, accessible water; a protected nesting substrate, including either flooded, thorny, or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony. Tricolored blackbird breeding colonies occur in freshwater marshes dominated by tules (*Scirpus* spp.) and cattails (*Typha* spp.), in Himalayan blackberries (*Rubus armeniacus*), and in silage and grain fields (Shuford and Gardali 2008). Tricolored blackbird foraging habitats in all seasons include annual grasslands, dry seasonal pools, agricultural fields (such as large tracts of alfalfa with continuous mowing schedules, and recently tilled fields), cattle feedlots, and dairies. Tricolored blackbirds also forage occasionally in riparian scrub habitats and along marsh borders. Weed-free row crops and intensively managed vineyards and orchards do not serve as regular foraging sites. Most tricolored blackbirds forage within 3 miles of their colony sites but commute distances of up to 8 miles have been reported (Shuford and Gardali 2008). There are four CDDDB occurrences within 10 miles to the north and south of the Project site (CDFW 2025). Suitable foraging and nesting habitat for this species is located in grassland and channels within and adjacent to the PG&E Project route (Appendix F3). No suitable nesting habitat is present on the Rosemary Project site (Appendix F1).



SOURCE: ESA, 2025

Proposed Project Boundary
Photovoltaic Array
Shared Facilities
Gen-Tie Option 1
Gen-Tie Option 2
Gen-Tie Option 3
Gen-Tie Option 4

Burrowing Owl (BUOW)
BUOW Observation
BUOW Occupied Burrow
BUOW Suitable Burrow

Rosemary Solar and Energy Storage System Complex

Figure 3.5-4
Burrowing Owl Survey Results

ESA

Mountain Plover

Mountain plover (*Anarhyncus montanus)* winters in California from September through March, during which it can be found on short grasslands and plowed fields of the Central Valley. This species does not breed in California. They are found in areas with little or no vegetation, including short grasslands, freshly plowed fields, newly sprouting grain fields, and sod farms. Conditions vary in the agricultural lands and grasslands where this species is often found in the winter. Therefore, occurrence may be sporadic, and mountain plovers may occur on the site on occasion during winter or migration, depending on crop rotation and other factors influencing habitat conditions. Suitable foraging habitat (e.g., agricultural fields) is present throughout the Project site. Three CNDDB records are within 10 miles; the nearest is located 0.94 mile north of the Rosemary Project site (CDFW 2025). This species has moderate potential to overwinter on the Project site (Appendices F1, F3).

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus)* is a year-round resident throughout the Central Valley often associated with open habitats with scattered trees, shrubs, posts, fences, utility lines, or other types of perches. Nests are built in trees or shrubs with dense foliage and are usually hidden well. Loggerhead shrikes search for prey from perches and frequently impale their prey on thorns, sharp twigs, or barbed wire. The nesting period for loggerhead shrikes is March through June (Zeiner et al. 1990). Although there are no CNDDB occurrences for loggerhead shrike within 10 miles, multiple individuals were seen foraging on the northern, southern, and eastern boundaries of the Rosemary Project site during surveys in 2024 (Appendix F1). Suitable nesting habitat (e.g., tamarisk trees) is present there and on the PG&E Project site as well (Appendix F3).

Southwestern Pond Turtle

Southwestern pond turtle (*Actinemys pallida*) is a state species of special concern (CDFW 2025) and is currently under review for listing under the federal Endangered Species Act (FESA) (USFWS 2025). Southwestern pond turtles occur throughout California from the coast to the western slopes of the Sierra Nevada up to 6,700 feet in a variety of aquatic habitats. Suitable habitats include ponds, rivers, streams, lakes, permanent and seasonal wetlands, marshes, managed waterways, and reservoirs with adequate cover and basking sites for thermoregulation (e.g., partially submerged logs, stumps, boulders, muddy banks, and mats of floating vegetation). Upland habitat with low disturbance and substrates that allow for burrowing are required for nesting from the spring through early summer, and for overwintering and dispersal. Southwestern pond turtles are active year-round in warmer locations but will spend winter months in colder climates in a state of dormancy, often burrowing into loose soil or leaf litter on land, or using undercut banks, snags, rocks or bottom mud in ponds. Breeding occurs from spring through fall, with nesting taking place from spring to early summer. Females lay eggs in sandy soil; eggs will hatch in the fall, although the young will remain in the nest until the following spring (Thomson et al. 2016). There is suitable aquatic habitat for this species in Fresno Slough and attached waterways, and adjacent suitable upland habitat for nesting (Appendix F3). There are documented CNDDB occurrences within 10 miles north along Fresno Slough (CDFW 2025). There is no suitable habitat on the Rosemary Project site (Appendix F1).

Giant Garter Snake

Giant garter snake (*Thamnophis gigas*) is listed as threatened under both the California Endangered Species Act (CESA) and FESA and is endemic to California. Critical habitat has not been designated for

giant garter snake. This species historically occurred throughout California's Central Valley, but the current known distribution consists of fragmented populations from Chico in Butte County, south to the Mendota Wildlife Area in Fresno County (USFWS 2020). The study area falls within the current range of giant garter snake, within the San Joaquin Basin Unit (USFWS 2017). Giant garter snake inhabits remaining natural wetland habitats within its range, which include marshes, ponds, small lakes, low-gradient streams with silt substrates, and managed waterways (USFWS 2017). They also use agricultural areas, which include irrigation ditches, drainage canals, rice fields, and their adjacent uplands (USFWS 2017). Though a highly aquatic species, they will use adjacent uplands for thermoregulation, summer shelter in burrows, and as refugia for winter hibernacula (USFWS 2017). In aquatic habitats, giant garter snakes are most commonly found in areas with emergent vegetation, in particular tule (*Schoenoplectus acutus*), which provide cover and potential basking substrates (USFWS 2020). Near aquatic habitat, upland can be used for thermoregulation and summer shelter in nearby burrows; further away from aquatic habitat and above the high winter waters, the upland can provide refugia for brumation (USFWS 2017). Depending on annual conditions, giant garter snakes usually move underground into mammal burrows, crevices, or other similar cover around October 1 to avoid the cool temperatures of fall and winter (USFWS 2017). Snakes emerge from winter retreats as early as April 1, although emergence is dependent on weather conditions. Breeding occurs from March through May with neonates born in July through September (USFWS 2017). There are five documented CNDDB occurrences of giant garter snake within 10 miles (CDFW 2025), and suitable aquatic and upland habitat is present for the species near the Fresno Slough (Appendix F3).

Crotch's Bumble Bee

The Crotch's bumble bee (*Bombus crotchii*) is a state candidate for listing. It can be found from coastal California east to the Sierra Nevada/Cascade Range crest and south into Mexico in grassland and scrub areas, where it nests in underground burrows. Suitable habitat is present along the PG&E Project route, but much is disturbed and ruderal. Although historically common in the Central Valley, the species now appears to be absent from much of its historic range (Xerces Society 2018). One CNDDB occurrence within 10 miles (from 1964) is located approximately 6 miles southeast of the Project site. Although there is no suitable habitat present on the Rosemary Project site based on the results of a focused habitat assessment (Appendix F1), this species has moderate potential to occur along the PG&E Project route (Appendix F3).

Monarch Butterfly

The Monarch butterfly (*Danaus plexippus*) is proposed for federal listing. In general, monarch butterfly habitat requirements include host plants for larvae, adult nectar sources, and sites for roosting, thermoregulation, mating, hibernation, and predator escape. The monarch butterfly can be found in a variety of habitats including grasslands, fields, meadows, weedy areas, marshes, and roadsides. Adults feed on nectar from a variety of flowers, but only milkweed plants are host plants for the species. Females lay eggs on milkweed plants, and the plants are the only food source for the caterpillars. In California, monarchs overwinter in wind-protected tree groves primarily in gum, pine, cypress and sycamore trees (CFBD 2023) in proximity to coastal waters. There are no records of this species within 10 miles of the Project site. There are no tree groves present onsite for overwintering and the Project site is not within the range of overwintering populations of monarchs; however, milkweed nectar plants for this species are present. One monarch butterfly was observed during surveys of the Rosemary Project site (Appendix F1) and the species has the potential to occur along the PG&E Project route (Appendix F3).

Migratory Birds and Roosting Bats

Several migratory bird species—including American kestrel (*Falco sparverius),* black phoebe (*Sayornis nigricans),* killdeer (*Charadrius vociferus),* loggerhead shrike, mourning dove (*Zenaida macroura),* northern harrier (*Circus hudsonius),* northern mockingbird (*Mimus polyglottos),* and prairie falcon (*Falco mexicanus)*—were observed during biological resources surveys conducted for the Rosemary Project (Appendix F1). The site includes habitat for birds to nest, overwinter, or stop over during migration along the Pacific Flyway, a regional flight corridor on the West Coast of North America, where up to 1 billion birds travel annually. Native migratory birds are protected while nesting.

Although bat species may roost overnight or hibernate in crevices or under loose bark of trees, the Project site has few trees, most of which are not of adequate size for bat roosting. Thus, roosting bats are unlikely on the Project site, though the agricultural land and stream courses may offer bat species suitable foraging options for insects and other invertebrate prey.

3.5.1.3 Regulatory Setting

Federal

Endangered Species Act

The federal Endangered Species Act of 1973 (FESA) and subsequent amendments (Title 16 United States Code [USC] Sections 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 law. 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 (16 USC Sections 703–711) is the domestic law that affirms and implements a commitment by the United States 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 Migratory Bird Treaty Act 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.

Clean Water Act

Waters of the United States are defined in the Code of Federal Regulations (33 CFR Section 328.3[a], and 40 CFR Section 230.3[s]) as rivers, streams, mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters. These waters fall under U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act. *Navigable waters* are defined as those waters that are subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Clean Water Act Section 401 is administered by the state under the Porter-Cologne Water Quality Control Act.

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. 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 FESA and CESA, compliance with FESA would satisfy CESA if CDFW determines that the federal incidental take authorization is "consistent" with CESA under Fish and Game Code Section 2080.1. Before a project may result in lawful take of a species listed under 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 the following:

> *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.

(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, 3513, and 4150 of the Fish and Game Code prohibit project operators from conducting activities that would result in any of the following:

(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.

(d) The take of any nongame bird, pursuant to Fish and Game Code Section 3800, whether intentional or incidental.

Section 4150 protects nongame mammals, including roosting bats.

Fully Protected Species

Fish and Game Code Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish) allow the designation of a species as *fully protected*. This designation generally prohibits all take of species listed as fully protected, although Senate Bill 147 amended the Fish and Game Code in 2023 to authorize CDFW to permit the take of fully protected species under CESA for certain categories of projects, including renewable energy projects and associated electric transmission projects (Fish and Game Code Section 2081.15[b]).

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13260) requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." This law defines *waters of the state* as "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the state, the converse is not true. In California, waters of the United States represent a subset of waters of the state. Therefore, the State of California, through each of nine regional water quality control boards, retains the authority to regulate discharges of waste into any waters of the state under Clean Water Act Section 401 permits.

Native Plant Protection Act

California's Native Plant Protection Act (Fish and Game Code Sections 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of this law prohibit the taking of endangered or rare plants from the wild and require that CDFW be notified at least 10 days in advance of any change in land use in areas that support listed plants.

Local

Fresno County General Plan

The Fresno County General Plan (Fresno County 2024) outlines several policies intended for the protection of biological resources countywide. Policies from the Open Space and Conservation Element and the Agriculture and Land Use Element are relevant to this analysis and are set forth below.

> ***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 [CDFW] 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 shall require developers to take into account a site's natural topography with respect to the design and siting of all physical improvements in order to minimize grading.

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.B: During the develop[ment] review process, the County shall evaluate and incorporate all practical buffers for new non-agricultural uses proposed in agricultural areas of the county. 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.

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.

3.5.2 Significance Criteria

A project would result in significant impacts 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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

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

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

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

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

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.2, *Erosion and Sediment Control Measures*, 2.5.9.3, *Vegetation Management Plan,* and Section 2.5.9.4, *Wildlife-Friendly Design Features*, could reduce potential impacts on biological resources.

Similarly, PG&E and its contractors routinely implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.4, *Nesting Bird Impact Avoidance*, and Section 2.6.7.5, *Worker Environmental Awareness Programs*, could reduce potential impacts on biological resources.

In addition, the PG&E San Joaquin Valley Operation and Maintenance (O&M) Habitat Conservation Plan (HCP) (2006) includes Avoidance and Minimization Measures (AMMs) to protect covered plant and wildlife species, including San Joaquin woollythreads, San Joaquin kit fox, western burrowing owl, tricolored blackbird, and giant garter snake in connection with PG&E's implementation of pole replacement, reconductoring, and associated maintenance activities in the valley. These PG&E-specific measures include the following (with **bold** added for ease in later reference):

> AMM 1 Employees and contractors performing O&M activities will receive ongoing environmental education. Training will include review of environmental laws and guidelines that must be followed by all personnel to reduce or avoid effects on covered species during O&M activities.
>
> AMM 2 Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
>
> AMM 3 The development of new access and ROW roads by PG&E will be minimized, and clearing vegetation and blading for temporary vehicle access will be avoided to the extent practicable.
>
> AMM 4 Vehicles will not exceed a speed limit of 15 mph in the ROWs or on unpaved roads within sensitive land-cover types.
>
> AMM 5 Trash dumping, firearms, open fires (such as barbecues) not required by the O&M activity, hunting, and pets (except for safety in remote locations) will be prohibited in O&M work activity sites.
>
> AMM 6 No vehicles will be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.
>
> AMM 7 During any reconstruction of existing overhead electric facilities in areas with a high risk of wildlife **electrocution** (e.g., nut/fruit orchards, riparian corridors, areas along canal or creek banks, PG&E's raptor concentration zone [RCZ]), PG&E will use insulated jumper wires and bird/animal guards for equipment insulator bushings or will construct lines to conform to the latest revision of PG&E's Bird and Wildlife Protection Standards.

AMM 9 **Erosion control measures** will be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, and waters of the state, and habitat occupied by covered animal and plant species when O&M activities are the source of potential erosion problems.

AMM 10 If an activity disturbs more than 0.25-acre in **a grassland**, and the landowner approves or it is within PG&E rights and standard practices, the area should be returned to pre-existing conditions and broadcast-seeded using a commercial seed mix. Seed mixtures/straw used for erosion control on projects of all sizes within grasslands will be certified weed-free. PG&E shall not broadcast seed (or apply in other manner) any commercial seed or seed-mix to disturbance sites within other natural land-cover types, within any vernal pool community, or within occupied habitat for any plant covered-species.

AMM 12 If a **covered plant** species is present, a qualified biologist will stake and flag exclusion zones of 100 feet around plant occupied habitat (both the standing individuals and the seed bank individuals) of the covered species prior to O&M activities.

AMM 13 If a **covered annual plant species** is present, O&M activities will occur after plant senescence and prior to the first significant rain to the extent practicable.

AMM 14 If a **covered plant species** is present, the upper 4 inches of topsoil will be stockpiled separately during excavations. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards. (This measure will be used as an AMM for narrow endemic plants only after approval by USFWS and DFG[1] during the *Confer Process.*)

AMM 15 If **vernal pools** are present, a qualified biologist will stake and flag an exclusion zone prior to O&M activities. The exclusion zone will encompass 250 feet. Work will be avoided after the first significant rain until June 1, or until pools remain dry for 72 hours.

AMM 16 If suitable habitat for **giant garter snake or California red-legged frog** is present and protocol-level surveys have not been conducted, a qualified biologist will stake and flag an exclusion zone of 250 feet around the habitat prior to O&M activities. Work will be avoided within this zone from October 1 to May 1 for giant garter snake and from the first significant rain to May 1 for California red-legged frog.

AMM 17 If suitable habitat for **covered amphibians and reptiles** is present and protocol-level surveys have not been conducted, a qualified biologist will conduct preconstruction surveys prior to O&M activities involving excavation. If necessary, barrier fencing will be constructed around the worksite to prevent reentry by the covered amphibians and reptiles. A qualified biologist will stake and flag an exclusion zone of 50 feet around the potentially occupied habitat. No monofilament plastic will be used for erosion control in the vicinity of listed amphibians and reptiles. Barrier fencing will be removed upon completion of work. Crews will also inspect trenches left open for more than 24 hours for trapped amphibians and reptiles. A qualified biologist will be contacted before trapped amphibians or reptiles (excluding blunt nosed leopard lizard and limestone salamander) are moved to nearby suitable habitat.

AMM 18 If **western burrowing owls** are present at the site, a qualified biologist will work with O&M staff to determine whether an exclusion zone of 160 feet during the non-nesting season and 250 feet during the nesting season can be established. If it cannot, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed

[1] "DFG" refers to the California Department of Fish and Game, which is now identified as the California Department of Fish and Wildlife.

activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.

AMM 19 If a **Swainson's hawk nest or white-tailed kite** nest is known to be within 0.25 mile of a planned worksite, a qualified biologist will evaluate the effects of the planned O&M activity. If the biologist determines that the activity would disrupt nesting, a buffer and limited operation period (LOP) during the nesting season (March 15–June 30) will be implemented. Evaluations will be performed in consultation with the local [CDFW] representative.

AMM 20 PG&E staff shall avoid occupied or potentially occupied burrows identified by a qualified biologist within two core-areas **for San Joaquin antelope squirrel and giant kangaroo rat** identified by [CDFW]. If occupied or potentially occupied burrows in the core areas cannot be avoided, a qualified PG&E biologist shall stake and flag a work-exclusion zone of at least 30 feet and remain on-sight as a biological monitor, or the biologist shall stake and flag a work exclusion zone of 50 feet around active burrows prior to covered activities at the job site. If work must proceed in the exclusion zone, PG&E will pursue techniques to minimize direct mortality including using approved biologists to trap and hold the species in captivity, and excavating and closing burrows. The approved biologist will hold a [federal] ESA Section 10(a)(1)(A) permit for the species. The approved biologist will release the mammals as soon as possible when the work is complete. If active (occupied or potentially occupied) burrows for San Joaquin antelope squirrel or giant or Tipton kangaroo rat are present outside the two core areas identified by [CDFW], a qualified biologist will stake and flag an exclusion zone of 30 feet and remain on-site as a biological monitor, or the biologist shall stake and flag a work exclusion zone of 50 feet around the burrows prior to O&M activities on the job site.

AMM 21 If **San Joaquin kit fox** dens are present, their disturbance and destruction will be avoided where possible. However, if dens are located within the proposed work area and cannot be avoided during construction, qualified biologists will determine if the dens are occupied. If unoccupied, the qualified biologist will remove these dens by hand excavating them in accordance with USFWS procedures (U.S. Fish and Wildlife Service 1999). Exclusion zones will be implemented following USFWS procedures (USFWS 1999) or the latest USFWS procedures. The radius of these zones will follow current standards or will be as follows: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and [CDFW]. Pipes will be capped and exit ramps will also be installed in these areas to avoid direct mortality.

AMM 22 All vegetation management activities will implement the nest protection program to avoid and minimize effects on **Swainson's hawk, white-tailed kite, golden eagle, bald eagle, and other nesting birds**. Additionally, trained pre-inspectors will use current data from [CDFW] and CNDDB and professional judgment to determine whether active Swainson's hawk, golden eagle, or bald eagle nests are located near proposed work. If pre-inspectors identify an active nest near a proposed work area, they will prescribe measures to avoid nest abandonment and other adverse effects to these species, including working the line another time of year, maintaining a 500-foot setback, or if the line is in need of emergency pruning, contacting HCP Administrator.

AMM 23 If medium or large disturbance covered activities take place within 0.5-mile of an active breeding colony of **tricolored blackbirds or bank swallows** or a small disturbance covered activities take place within 350 feet of an active breeding colony of these species a qualified biologist will evaluate the site prior to work during the breeding season (April 1-July 31). If an active colony of either species could be disrupted by the covered activity, the biologist will stake and flag an exclusion zone of at least 350 feet around the colony prior to O&M activities at the site. This exclusion zone will be established in the field based on site conditions, the covered activity, and professional

judgment by a qualified PG&E biologist and will be greater than the minimum distance. Work will not occur in this exclusion zone during April 1–July 31.

3.5.3.2 Methodology

The following analysis relies on the criteria from the CEQA Guidelines Appendix G Environmental Checklist to determine whether the Project could cause a potential significant effect on biological resources, including resources that occur or could occur on or near the Project site. Existing and potential biological resources were identified through a review of relevant literature and occurrence databases, and review of biological reports. 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

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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Rosemary Project

The Rosemary Project would not have a substantial adverse direct or indirect impact on special-status plants. (*No Impact*)

The Rosemary Project site is located on actively farmed or fallowed agricultural land with ruderal/ disturbed lands and agricultural ditches on the perimeter. Rare or special-status plants have minimal potential to occur in this area, as shown in Table BIO-1 (Appendix F5). Thus, there would be no impact on these species.

Impact 3.5-1: The PG&E Project could have a substantial adverse direct or indirect impact on special-status plants. (*Less than Significant with Mitigation Incorporated*)

The PG&E Project route, which follows the path of vegetated canals and crosses Fresno Slough, has non-native annual grassland, and wetland and water features that are seasonally dry (Google 2025) and have the potential to host native plant species. There are eight special-status plants, including the federally listed as endangered San Joaquin woollythreads, with moderate potential to occur in this area (Table BIO-1, Appendix F5). Seven of these plants—brittlescale, heartscale, subtle orache, Earlimart orache, recurved larkspur, Munz's tidy-tips, and San Joaquin woollythreads—occur in association with grasslands, while Sanford's arrowhead prefers shallow freshwater habitats. Each of these species has been recorded within 10 miles of the PG&E Project site and may be present in grassy banks or in vegetated channels along the route.

During construction, work areas for reconductoring or pole placement could damage or kill individuals or patches of rare plants, if growing in a work area. To avoid or minimize impacts on rare plants, PG&E would implement pre-activity surveys under the HCP in sensitive areas, which would identify the rare plants during their appropriate blooming periods. PG&E also would implement other AMMs, such as AMM 1, AMM 2, AMM 3, AMM 4, AMM 6, AMM 9, AMM 12, AMM 13, AMM 14, and AMM 15,

which require identification, avoidance, and other minimization measures to limit impacts to plant species, as well as standard construction practices, such as worker environmental awareness training, parking requirements, and route and speed limitations, designed to avoid impacts to biological resources, including plants. However, AMMs 12, 13 and 14 protect only HCP-covered plants (i.e., San Joaquin woollythreads), not the other seven plants listed above. Because, other than San Joaquin woollythreads, the plant species with moderate potential to occur on the Project site are not listed as covered species in the PG&E O&M HCP, **Mitigation Measure 3.5-1, Protection of Rare Plants** is identified to reduce potential impacts on these rare plants, if present, to a **less-than-significant level**.

Mitigation Measure 3.5-1: Protection of Rare Plants

For any rare, endangered or special-status plants identified along the PG&E Project route, PG&E shall implement the following protection measures based on its 2006 San Joaquin Valley O&M HCP:

- If a rare plant species is present, a qualified biologist will stake and flag exclusion zones of 100 feet around plant occupied habitat. (AMM 12)
- If a rare annual plant species is present, O&M activities will occur after plant senescence and prior to the first significant rain to the extent practicable. (AMM 13)
- If a rare plant species is present, the upper 4 inches of topsoil will be stockpiled separately during excavations. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards, after approval from USFWS and/or CDFW. (AMM 14)

Significance after Mitigation: Less than Significant. Mitigation Measure 3.5-1 would implement HCP Measures AMM 12, 13, and 14 for all rare plant species found during surveys. The measure would include protection of covered plants to the extent possible, delay work until after flowering, and stockpile soil for replacement after O&M activities. Although the rare plants with moderate potential to occur are not covered species listed in the PG&E O&M HCP, the PG&E measures would be applied to any rare plant species identified in the survey. With implementation of Mitigation Measure 3.5-1, the impact on rare plants along the PG&E Project route would be less than significant.

Impact 3.5-2: The Rosemary Project could have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species. (*Less than Significant with Mitigation Incorporated*)

Special-status terrestrial wildlife species with moderate or higher potential to occur within the Rosemary Project site include western burrowing owl and monarch butterfly. San Joaquin kit fox, Fresno kangaroo rat, and American badger were determined to have a low potential to occur on the Rosemary Project site (Section 3.5.1.2). Disced and actively cultivated agricultural lands on-site discourage denning and provide limited habitat for San Joaquin kit fox, Fresno kangaroo rat, and American badger. However, the perimeter of the Rosemary Project site includes ruderal slopes and fallow areas, which have the potential to support these species.

The Rosemary Project site, which has been disced and actively cultivated, provides limited habitat for burrowing owl. However, occupied burrowing owl burrows were observed on the perimeter during focused biological surveys on-site (Appendix F1); thus, the species is assumed present on-site. Suitably-sized burrows for kit fox were also observed during surveys in one location along the periphery of the Project site, but were determined to be likely to be occupied by coyotes; suitable badger burrows were not

observed. Thus, kit fox and badger would most likely be present only in transit between areas of superior habitat. Chapter 2, *Project Description*, states that fencing around the site would be applied during construction, which would protect terrestrial wildlife, if present, from crushing by vehicles or equipment. Indirect effects on breeding owls or transiting badgers or kit foxes could include disturbance from night lighting or the presence of litter, which may interfere with foraging or draw predators. The implementation of APM 2.9.5.5, *Wildlife-friendly Design Features*, would apply motion-sensitive lighting to minimize effects on wildlife. Construction measures would include depositing litter in closed containers. Due to the limited potential for badger and kit fox to occur on site, and with implementation of APMs, potential impacts on badgers and kit fox during construction, operation, and decommissioning would be **less than significant** with no mitigation needed on the Rosemary Project site.

One monarch individual was observed during biological surveys in the southeastern corner of the Project site and two milkweed host plants were observed on the northwestern edge of the Project site. Numerous individual host plants were observed north of the Project site in an agricultural ditch. Because the majority of the site is not suitable for monarch, temporary and permanent impacts to foraging habitat would be less than significant. Although unlikely, potential impacts could occur during construction if there are impacts to host plants that have monarch individuals, eggs or larvae. However, impacts on this species and its habitat would be reduced to less than significant by implementing **Mitigation Measures 3.5-2, Designated Biologist During Construction, 3.5-3, Measures for the Avoidance and Protection of Biological Resources, and 3.5-4, Avoid Impacts on Monarch Butterfly.** These measures would help ensure that a designated biologist is present to guide the avoidance and minimization of impacts to monarch butterfly host plants and to minimize any indirect impacts through the implemenation of general biological protection measures.

Occupied owl burrows along the northern perimeter of the site (Figure 3.5-4) could be enclosed within the construction area, which could lead to killing or injuring burrowing owls, if present, or cause abandonment of nests in burrows. These impacts would be reduced by the implementation of **Mitigation Measure 3.5-2, Designated Biologist During Construction, 3.5-3, Measures for the Avoidance and Protection of Biological Resources, and 3.5-5: Protection of Burrowing Owls**. These measures would require biological monitoring, speed limits and trash removal, and preconstruction surveys with avoidance of occupied burrows.

During long-term operations, agricultural ditches adjacent to the Rosemary Project site would not be impacted and existing habitat for burrowing owl would largely remain in place. Additionally, APM 2.9.5.3, *Vegetation Management Plan*, would help ensure that vegetation is established and maintained on the Project site in a manner that is consistent with the habitat requirements for burrowing owl and other wildlife in the region (i.e., low vegetation height). Indirect effects on owls would be limited with implementation of APM 2.9.5.4, *Wildlife-friendly Design Features*, which would apply motion-sensitive lighting to minimize effects on wildlife. Thus, impacts to burrowing owls, including foraging habitat, during Rosemary Project operation would be **less than significant**.

Mitigation Measure 3.5-2: Designated Biologist During Construction

Prior to the issuance of grading or building permits, the Project operator will designate a lead biologist with the qualifications (i.e., relevant training and experience with special-status species that could potentially occur onsite) to oversee compliance with protection measures for all listed

and other special-status species. The lead biologist or another qualified biologist will be on the Project site during initial vegetation clearing and grading.

After grading is complete, the lead biologist or another qualified biologist will visit the Project site at least weekly during construction activities throughout the construction phase, and as needed during decommissioning. The lead biologist and qualified biologists will have the right to halt all activities to avoid impacts on special-status species and to establish no-disturbance buffers. Work will proceed only after hazards to special-status species are removed, and the species is no longer at risk. While onsite, the lead biologist or qualified biologist will carry a copy of all compliance measures and appropriate plans.

Mitigation Measure 3.5-3: Measures for the Avoidance and Protection of Biological Resources

During construction and operations, the contractor will implement the following general avoidance and protective measures to protect special-status wildlife species.

- The contractor will limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations will be confined to the smallest areas possible. All Project disturbance areas will be clearly demarcated with signs, stakes, and/or flagging prior to construction to avoid non-Project areas and natural resources where possible.
- Spoils will be stockpiled in disturbed areas that lack native vegetation. BMPs will be employed to prevent erosion in accordance with the Project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected erosion will be remedied as described in the Project SWPPP.
- All personnel entering the Project site will attend worker environmental awareness training provided by the lead biologist or their designee before beginning work onsite. Th Worker environmental awareness training will occur before construction activities begin and as needed thereafter. Worker environmental awareness training will include the following topics:
- Information on the potential special-status species and the habitats that may be found within or adjacent to the Project site, including (but not limited to) burrowing owl, monarch butterfly, Swainson's hawk, and nesting birds.
- Impact avoidance and reporting requirements of federal and state laws pertaining to potential special-status species. Workers will be instructed to notify the site supervisor and/or lead or qualified biologist immediately if any of these species are present onsite.
- Identification of measures implemented to conserve the special-status species and habitats within or adjacent to the Project site.
- Distribution of this information to all personnel who may enter the Project site.
- To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth will 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. All holes and trenches, whether covered or not, will be inspected by workers for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they will be thoroughly inspected by workers for trapped animals. If trapped animals are observed, escape ramps or structures will be installed immediately to allow escape. If a listed animal or species of special concern is trapped or

injured, then the lead biologist will immediately contact USFWS and/or CDFW to identify an individual with the appropriate permit or authorization to handle listed species and to determine who will bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.

- 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 will be thoroughly inspected 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 will not be moved until the lead or another qualified biologist has been consulted. If the animal is a listed species, then work will immediately halt in the vicinity, and the animal will be allowed to move from the structure and the work area of its own accord. Listed species will not be handled or captured by anyone without the appropriate permit or authorization.
- Drivers/operators of vehicles and equipment parked at worksites will inspect the ground beneath the vehicle or equipment for the presence of wildlife prior to moving the vehicle/ equipment. If an animal is present, the lead biologist or another qualified biologist will be notified and the animal will be left to move on its own.
- Project vehicles and equipment will use existing routes of travel. Cross-country vehicle and equipment use beyond the demarcated Project disturbance areas will be prohibited.
- During construction and operations, all vehicles shall maintain a speed limit of no more than 20 mph in all project areas during the daytime and 10 mph at night.
- Following construction, the Project owner shall utilize a wildlife-friendly fence design to allow passage by San Joaquin kit fox and other small mammals, such as by including a 4-to-6-inch gap at ground level for passage, or by providing openings at intervals around the facility perimeter.
- A long-term trash abatement program will be established for construction, O&M, and decommissioning. The plan will be submitted to the County prior to construction. Personal trash and food items will be placed in a central, closed container and removed from worksites daily to reduce the attraction of wildlife, such as common ravens (*Corvus corax*), coyotes (*Canis latrans*), and feral dogs.
- Workers will be prohibited from bringing pets and firearms to the Project site and from feeding wildlife in the vicinity.
- Intentional killing or collection of any wildlife species is prohibited.

Mitigation Measure 3.5-4: Avoid Impacts on Monarch Butterfly

To avoid monarch individuals (adults, eggs, and larvae), the contractor should remove host plants for monarch butterfly during the winter months (October 1–February 28) when individuals in any life stage would not be present in the Project site. If the removal of the host plants occurs between March 1 and September 30, a qualified biologist should conduct a preconstruction survey for all life stages on the plants and avoid removing the plants until the monarchs have completed their life cycle and are no longer present.

Mitigation Measure 3.5-5: Burrowing Owl Protection Measures

A qualified biologist shall conduct a pre-construction survey for burrowing owls 14 to 30 days prior to construction in accordance with current CDFW protocol (CDFG 2012). The survey shall cover all accessible grassland areas within 500 feet of the area to be disturbed by construction,

checking for adult and juvenile burrowing owls and signs of burrowing owl occupation (e.g., whitewash, pellets, bones, or feathers).

A qualified biologist shall provide a pre-construction worker education program to contractors and their employees that describes the life history and species protection measures that are in effect to avoid impacts on burrowing owls that could occur on-site during construction.

If inactive burrowing owl burrows are detected any time of the year, the burrows may be excavated with a shovel to prevent burrowing owls from re-using them during construction. The burrows' inactive status will be determined by the approved biologist through monitoring prior to burrow excavation. If active (occupied) burrowing owl burrows are detected, no ground-disturbing activities, such as vegetation clearance, grading, or other construction activities, will be permitted within a no-disturbance buffer around the burrow. The size of any employed no-disturbance buffers will be 330 feet (100 meters) from the active burrow during the breeding season (February 1 to August 31) and 165 feet (50 meters) from the active burrow during the nonbreeding (winter) season (September 1 to January 31), unless otherwise authorized by a qualified biologist as described below.

Depending on the level of disturbance, a smaller buffer may be established by a qualified biologist based on the visibility and sensitivity responses of each individual burrowing owl and may include the placement of visual buffers.

If the qualified biologist determines there is a potential for take of burrowing owl that cannot be avoided, the Project owner shall consult with CDFW regarding the potential for take of burrowing owl and comply with any Incidental Take Permit issued by CDFW.

Significance after Mitigation: Less than Significant. Implementing APM 2.9.5.3 and 2.9.5.5 and Mitigation Measures 3.5-2, 3.5-3, 3.5-4 and 3.5-5 would reduce potential significant impacts of the Rosemary Project to a less-than-significant level because impacts on special-status terrestrial wildlife species would be avoided or minimized by fencing, worker education, surveys and avoidance of potentially occupied habitat and burrows.

Impact 3.5-3: The PG&E Project could have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species. (*Less-than-Significant with Mitigation Incorporated*)

Several special-status terrestrial wildlife species with moderate or higher potential to occur within the PG&E Project site include San Joaquin kit fox, Fresno kangaroo rat, American badger, giant garter snake, western burrowing owl, southwestern pond turtle, and Crotch's bumble bee. These species may nest or burrow in grassy banks of canals, ditches, or managed slough features along the proposed route, and may be killed or injured if present during construction. Injury or death could occur by vehicle or equipment crushing, or by abandonment of nests or burrows, leading to reproductive loss. These species could also be indirectly impacted by lighting, noise, or the presence of litter, which attracts predators and competitors. PG&E would avoid or minimize impacts on terrestrial species by implementing HCP (2006) measures AMM 1, 2, 3, 6, 9, 10, 16, 17, 18, 20, and 21, as well as the PG&E worker environmental awareness program, the specifics of which are provided in Section 2.6.7.5, *Worker Environmental Awareness Programs*. This program would provide workers with training regarding compliance with all avoidance and minimization measures that are being implemented to protect biological resources. HCP AMMs 2, 3, 6, and 9 would limit PG&E work to previously disturbed areas, to the extent feasible, and require avoidance and minimization of impacts to potential habitat used by these species. HCP AMM 16

would include preconstruction giant garter snake surveys, while HCP AMM 17 would include preconstruction surveys for pond turtle, with exclusion zones flagged for potentially occupied habitat. HCP AMM 18 would establish exclusion zones for occupied burrowing owl habitat. HCP AMM 20 would avoid occupied burrows for small mammal species or seek take coverage from wildlife agencies, and HCP AMM 21 would avoid potential San Joaquin kit fox dens where possible or excavate them in accordance with federal guidance (USFWS 1999). Surveys required for HCP AMMs 20 and 21 would also protect Fresno kangaroo rat and American badger burrows that may be present in the work area. PG&E also would implement standard construction measures, including parking requirements, and route and speed limitations, which would avoid and minimize impacts to undisturbed areas. Further, construction activities associated with PG&E's Reconducting Project would be limited in scope and temporary in nature and primarily would occur in small work areas subject to previous disturbance. Further, the operation of the project following reconductoring and substation upgrades would be limited to minor maintenance activities, as under current conditions. Thus, given the limited and temporary scope of PG&E's work, compliance with applicable federal and state law, and with implementation of these avoidance and minimization measures, impacts on these species would be **less than significant** with no mitigation required.

For potential impacts to Crotch's bumblebee in suitable habitat along the PG&E Project route, **Mitigation Measure 3.5-6, Protection of Crotch's Bumblebee**, is recommended, because no AMM covers this species. This measure would require surveys by a qualified bee biologist and avoidance of occupied areas.

> **Mitigation Measure 3.5-6: Protection of Crotch's Bumblebee**
>
> No more than 30 days prior to construction, a qualified biologist with expertise in bees shall conduct a Crotch's bumble bee survey in suitable nesting, foraging, and overwintering habitat (grassland) areas that may be impacted by PG&E Project construction, and areas within 100 feet. A minimum of three surveys shall be conducted over a three-day period within a temperature range of 15°C and 30°C between March 1 and October 31 following the guidance outlined in the California Bumble Bee Atlas. If an active nest is identified, a 45-foot no-disturbance buffer shall be established to reduce the risk of accidental take. If the no-disturbance buffer cannot be maintained, PG&E shall seek take coverage for this species under the California Endangered Species Act.
>
> **Significance after Mitigation:** Less than Significant. Following the implementation of HCP AMMs 17, 18, 20, and 21, and Mitigation Measure 3.5-6, the PG&E Project would have a less-than-significant impact on San Joaquin kit fox, Fresno kangaroo rat, American badger, giant garter snake, western burrowing owl, and southwestern pond turtle. The implementation of Mitigation Measure 3.5-6 would additionally reduce potential significant impacts of the PG&E Project on Crotch's bumblebee to a less-than-significant level. Impacts on terrestrial special-status species would be avoided or minimized by worker education, site maintenance, surveys, exclusion zones, avoidance with buffers, or consultation with agencies regarding take coverage, if needed.

Impact 3.5-4: The Rosemary Project could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds. (*Less than Significant with Mitigation Incorporated*)

A Swainson's hawk and several loggerhead shrikes were observed near the Rosemary Project site during biological surveys (Appendix F1) but the site lacks suitable nesting habitat for Swainson's hawk (mature

trees). Loggerhead shrikes may nest in small tamarisk trees on the site. Tricolored blackbird and mountain plover may also occur on the Rosemary Project site while foraging, but would not nest there, and mountain plover does not nest in California. Foraging birds would not be directly harmed by construction activities because they can avoid disturbance by flying away. Nesting birds, however, may be harmed or killed if Rosemary Project construction results in removal of nest habitat or forces abandonment of nests by adult birds, leading to reproductive loss. Suitable nest habitat for shrikes and for other non-special-status migratory birds protected under state and federal law (as described in Section 3.5.1.3, *Regulatory Setting*) is present in tamarisk trees and shrubs on the Rosemary Project site. Raptor species, including Swainson's hawk, may also nest in nearby trees or power lines. Depending on the timing of construction, activities initiated near an active nest could disturb birds with noise or human activity. Vegetation removal may also directly remove active nests. The abandonment of a nest by adult birds or the loss of individual nests would be a significant impact. To reduce this impact, **Mitigation Measure 3.5-7: Protection of Nesting Birds, including Swainson's Hawk** is recommended to require preconstruction nesting bird surveys and avoidance of nests with a suitable buffer until young have fledged.

> **Mitigation Measure 3.5-7: Protection of Nesting Birds, Including Swainson's Hawk**
>
> Before any work is conducted from February 15 to September 15, a qualified biologist with expertise in birds shall conduct a preconstruction survey to determine whether any birds are nesting in or near the work area. The preconstruction survey shall be conducted no earlier than seven days before the start of work from February 15 through May, and no earlier than 15 days before the start of work from June through September 15. If active nests are found during the survey, the biologist shall determine an appropriately sized buffer around the nest in which no work would be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the qualified biologist, and would be based on the nesting species, its sensitivity to disturbance, and the expected types of disturbance. Typical nest buffers range in size from 250 feet for passerine birds, 500 feet for common raptors, and 0.25-mile for Swainson's hawk.
>
> **Significance after Mitigation**: Less than significant. With implementation of Mitigation Measure 3.5-7, active Swainson's hawk and other protected migratory bird nests would be identified before construction and avoided with a suitable buffer, reducing impacts on these species to a less-than-significant level.

Suitable Swainson's hawk foraging habitat is present on the entirety of the Project site. The site consists of active, annually rotated agricultural habitat, considered to be moderate quality habitat by CDFW (2016). Analysis of Swainson's hawk foraging habitat within 10 miles of the Project site (Appendix F1) indicated that the Project site encompasses only 0.8% of the suitable foraging habitat within 10 miles. Approximately 127 acres of moderate quality foraging habitat would be subject to permanent impacts from construction of roads, inverter pads, O&M facility, ESS pads, and parking lot. An additional 806 acres of moderate quality foraging habitat would be altered by installation of the Project's solar panel arrays and retention basins. Swainson's hawk may continue to use open areas within solar fields as foraging habitat if prey is present (Estep 2013; Helix 2018), but the presence of solar panels reduces foraging potential (CDFW 2010; Ahmed 2022). The vegetation management plan (APM 2.5.9.3) would be implemented to restore grassland acreage surrounding panels following construction to promote use by rodents, which are prey for Swainson's hawk. Due to the availability of surrounding foraging habitat, and with implementation of APMs, potential loss of Swainson's hawk foraging habitat would be **less than significant**, with no mitigation required on the Rosemary Project site.

Red-tailed hawk and other raptor species may also forage on the Rosemary Project site. Despite the active agricultural operations (where active discing destroys habitat for rodents), portions of the Rosemary Project site may provide habitat for prey, including gophers and other rodents. Conversion of these lands to a solar facility 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 within 10 miles of the site (141,282 acres; Appendix F1), and the implementation of a vegetation management plan (APM 2.5.9.3), which would reestablish vegetation on the disturbed agricultural site, the impact of the loss of approximately 1,172 acres of foraging habitat would be **less than significant** with no mitigation required.

Collisions with Project facilities or equipment could also cause injury or mortality to migratory birds, including raptors present on or near the site. Birds may collide with transmission poles or wires, fencing, or heavy equipment, and power lines may cause electrocution. Raptors generally have the ability to avoid obstacles, but their collision or electrocution risk increases when they are engaged in activities, such as territorial defense and foraging for prey (APLIC 2012). The Applicant proposes to implement APM 2.9.5.4, *Wildlife-Friendly Design Features*, which includes adherence to current Avian Power Line Interaction Committee (APLIC) design standards, including the use of avian-safe line designs, and installation of devices to make power lines visible to birds (APLIC 2006, 2012)[2] for overhead power lines and associated structures. In addition, the solar panels would be close to vertical during the night, which would reduce the likelihood of bird collisions resulting from the "lake effect" (Appendix F1). These measures, including adherence to APLIC design standards for new power lines, would minimize potential injury or mortality of raptors from collisions or electrocution. Thus, this potential impact would be **less than significant** with no mitigation required.

Impact 3.5-5: The PG&E Project could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds. (*Less-than-Significant Impact)*

The PG&E Project site has suitable nest trees for Swainson's hawk in the northern portion, though no existing nests were observed during surveys (Appendix F3). Suitable nesting habitat for tricolored blackbird colonies is also present near Fresno Slough along the PG&E Project route. Loggerhead shrikes and other migratory birds, including raptors, may nest in small trees, power poles, shrubs, or tall grasses along the route. Nesting birds may be injured or killed if construction activities for the Project result in removal of active nests, or forces abandonment of nests by adult birds, leading to reproductive loss. Depending on the timing of construction, activities initiated near an active nest could disturb birds with noise or human activity. Vegetation removal may also directly remove active nests. The abandonment of an active nest by adult birds or the direct loss of an active nest would be a significant impact. Implementation of the PG&E worker environmental awareness program (Section 2.6.7.5) and preconstruction nesting bird surveys and avoidance (Section 2.6.7.4) would minimize disturbance impacts on special-status and other migratory birds during reconductoring activities.

To protect migratory birds, including mountain plover, from collision or electrocution, the PG&E O&M HCP (2006) includes AMM 7, which would use insulated wires and bird guards and construct lines in accordance with latest PG&E protection standards for bird and wildlife protection. Given the limited

[2] Forthcoming APLIC (2024) update *Suggested Practices For Avian Protection on Power Lines: State of the Art in 2024* will also be incorporated into Project design.

scope of PG&E's activities, and implementation of AMMs described above designed to avoid or minimize impacts to undisturbed areas, impacts to foraging habitat would be less than significant.

Thus, given compliance with applicable federal and state regulations, and following the application of HCP AMMs and best management practices, potential direct and indirect impacts of implementing the PG&E Project on Swainson's hawk, loggerhead shrike, and other nesting and migratory birds would be **less than significant** with no mitigation required.

Once reconductoring is complete, PG&E's operation and maintenance of the existing Helm–Crescent 70 kV electric transmission line, Helm Substation, and Crescent Switching Station would occur in the same way it does under current (baseline) conditions, involving minor maintenance activities. Because there would be no change to baseline conditions, the PG&E Project would have **no impact** relating to criterion a) once reconductoring is complete.

Mitigation: None required.

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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The Project would not have a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS. (*No Impact*)

The Rosemary Project site consists of agricultural fields and disturbed land, with no riparian habitat or other sensitive vegetation community (Appendices F1, F2). The PG&E Project site contains canals, ditches, and managed slough (wetland) features, which are discussed under criterion c), but no riparian or other sensitive natural community (Appendix F3). Thus, both the Rosemary Project and PG&E Project would cause **no impact** under criterion b).

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

Rosemary Project

The Rosemary Project would not have a substantial adverse effect on state or federally protected wetlands. (*No Impact*). No state or federally protected wetlands or other waters of the United States or state are present on the Rosemary Project site (Appendix F2). Thus, the Rosemary Project would cause no impact under criterion c).

Impact 3.5-6: The PG&E Project could have a substantial adverse effect on state and federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means while reconductoring is underway. (*Less than Significant with Mitigation Incorporated*)

The PG&E Project is expected to take up to approximately 18 months to complete. During this time, it may temporarily affect wetland features, including canals, ditches, and managed sloughs. The managed sloughs and canals (Figure 3.5-2) are potentially jurisdictional to the U.S. and State of California. Waters of the United States are not mutually exclusive from waters of the state, which are defined more broadly.

Temporary impacts would be associated with vegetation clearing for pole construction and for the stringing of conductor wire at overhead structures. Permanent impacts to wetland features would be avoided. Federal and state aquatic permits would be required for any change to existing channel, bed, or bank; removal or deposit of material; or diversion or obstruction of the natural flow of a jurisdictional water feature. If impacts to state or federal protected wetlands or other waters of the United States and state cannot be avoided, PG&E would be required to obtain any required environmental permits and comply with the conditions of each.

Temporary impacts to wetland features during construction may include up to 0.003-acre of canals, 0.031-acre of managed sloughs, and 0.18-acre of freshwater wetland (Figure 3.5-2).

To minimize temporary impacts, PG&E would implement AMMs from the 2006 O&M HCP, which include minimizing vegetation removal, refueling outside wetlands, and application of erosion control materials during construction. However, if temporary impacts to wetlands can not be avoided during construction, the impact would be **significant**.

To reduce this impact, **Mitigation Measure 3.5-8, Habitat Restoration and Monitoring** would require all temporary impacts on wetlands be restored in accordance with an approved restoration and monitoring plan, which would include ecological monitoring and reporting requirements and measures to take if requirements were not met. Following the implementation of this measure, impacts on wetlands and other waters would be **less than significant with mitigation incorporated**.

> **Mitigation Measure 3.5-8: Habitat Restoration and Monitoring**
>
> If temporary impacts to wetland features cannot be avoided, the following requirements and minimum performance standards that are typical of regulatory permit requirements from the California Department of Fish and Wildlife, Regional Water Quality Control Board, and U.S. Army Corps of Engineers, shall be implemented.
>
> At least 30 days before the completion of Project activities, the Project owner shall submit a Restoration Plan to CDFW for review and written approval. No Project activities shall commence until the Restoration Plan is approved by CDFW in writing. The plan shall describe the on-site restoration of temporary impacts on wetland habitat, including monitoring and success criteria. Restoration and monitoring shall be guided by a qualified biologist experienced in wetland habitat restoration. Restoration shall include protocols for replanting native vegetation removed before or during construction, and management and monitoring of the plants to ensure replanting success.

The plan shall be implemented within the same calendar year as the completion of Project activities unless otherwise approved in writing by CDFW. More than one plan may be necessary for restoration activities in different locations.

The following measures shall apply to site restoration:

- Areas affected by construction-related activity shall be replanted or reseeded with locally collected and grown native shrubs and herbaceous species suitable for wetland locations, under guidance from a qualified restoration biologist.
- To ensure a successful revegetation effort, all plants shall be monitored and maintained as necessary for 5 years. At the end of the 5 years of monitoring, with at least 3 years without supplemental irrigation, each category of plantings (e.g., herbs, shrubs) shall have a minimum of 85 percent survival at the end of the minimum monitoring period, and plantings shall attain 70 percent cover after 3 years and 75 percent cover after 5 years, unless approved in writing by CDFW. Survival and cover criteria shall both be required unless the herbaceous or spreading plants cannot be differentiated by individual, in which case only cover success criteria are required.

Significance after Mitigation: Implementation of 2006 HCP AMMs and Mitigation Measure 3.5-5 would ensure that temporary impacts associated with wetlands would be less than significant by minimizing damage to nearby wetlands and restoring all temporarily impacted areas in accordance with an approved restoration plan.

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.

Impact 3.5-7: The Rosemary Project could interfere substantially with established native resident or migratory wildlife corridors. (*Less than Significant with Mitigation Incorporated*)

The majority of the Rosemary Project site is within an area mapped as "Limited Connectivity Opportunity" with the northeast corner mapped as "Conservation Planning Linkage" by the California Essential Habitat Connectivity Project (CDFW 2024). The Rosemary Project is not located in an identified recovery area for San Joaquin kit fox (USFWS 2010a); however, suitably sized burrows are present in one area on the periphery of the Project-site (Appendix F1), and this species may move across the site toward areas of superior habitat along canals or sloughs.

Dispersal is considered a key factor in the recovery and survival of kit fox because kit fox populations are becoming increasingly fragmented as areas of suitable habitat are lost to development (USFWS 2010a). Kit fox records are located both southeast (Lemoore) and north (Mendoza) of the Rosemary Project site (CDFW 2025). Although the majority of the Rosemary Project site is in active agricultural use, the site is presently unfenced allowing for terrestrial wildlife movement across the 1,172-acre site. Temporary construction fencing around the site during work activities would be protective of wildlife. However, following construction, the perimeter of the Rosemary Project site would be surrounded by permanent fencing that may prevent passage by kit fox and other small terrestrial wildlife species during operations. The loss of potential kit fox movement across an area of this size would be a significant impact. The proposed speed limit for the Rosemary Project site is 20 mph (Section 2.5.9.4), which is consistent with the suggested measures for kit fox (USFWS 2011). Implementation of the Wildlife-friendly Site

Management provisions included in Mitigation Measure 3.5-3 is recommended to maintain the capability and safety of wildlife passage across the site after construction. In addition, APMs set forth in Chapter 2, *Project Description*, provide for motion-detecting lights (Section 2.9.5.5) which would help to protect San Joaquin kit fox and other wildlife from injury as a result of potential vehicle collisions, and minimize impacts to species at night, including during migration.

The Rosemary Project is located within a significant avian migration route known as the Pacific Flyway, which covers the entire western side of North America. Although individual birds may be affected by collision (see Impact 3.5-4), the Rosemary Project is not anticipated to affect the regional bird populations that use the Pacific Flyway. There are no perennial water features on the Rosemary Project site, and no corridors for aquatic species. In addition, no wildlife nursery sites have been identified on the Rosemary Project site. Thus, **no impacts** would occur to fish or nursery areas.

> **Mitigation**: Implementation of Mitigation Measure 3.5-3: Measures for the Avoidance and Protection of Biological Resources
>
> **Significance after Mitigation**: Less than significant. Implementing Mitigation Measure 3.5-3 along with the APMs set forth in Section 2.9.5.4 and Section 2.5.9.3 would reduce the potential for the Rosemary Project to interfere substantially with established wildlife movement corridors for San Joaquin kit fox and other small mammals because wildlife would be allowed to cross the site during operations, and vehicle speed would be limited to 20 mph.

Impact 3.5-8: The PG&E Project could interfere substantially with established native resident or migratory wildlife corridors. (*Less-than-Significant Impact*)

The PG&E Project route is within an area designated as "Conservation Planning Linkage" by the California Essential Habitat Connectivity Project (CDFW 2024), and includes the Fresno Slough, an established wildlife corridor. However, construction of poles would require only temporary use of small staging areas and would not interfere substantially with wildlife movement. Following construction, wildlife species could move freely underneath the power lines. Although individual birds may be affected by collision, the PG&E Project is not anticipated to affect the regional bird populations that use the Pacific Flyway and, as discussed above under Impact 3.5-5, would use insulated wires and bird guards and construct lines in accordance with latest PG&E protection standards for bird and wildlife protection. Thus, impacts of the PG&E Project on wildlife corridors would be **less than significant** with no mitigation required.

> **Mitigation:** None required.

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

Impact 3.5-9: The Rosemary Project could conflict with local policies or ordinances protecting biological resources. (*Less than Significant with Mitigation Incorporated*)

As described in Section 3.5.1.3, the County has policies and ordinances for 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, these protected resources are not present within the Rosemary Project site.

The County also has a goal and policies for protecting fish and wildlife habitat (General Plan Goal OS-E), which requires environmental review for the protection of sensitive wildlife and their habitats. Portions of the Rosemary Project site contain potentially suitable breeding and nesting habitat for wildlife species, including burrowing owl and migratory birds. Construction of the Project would have the potential to harm these species, if present. Implementing the wildlife-friendly design measures included in the Project Description (Section 2.5.9.3, *Vegetation Management Plan*, 2.5.9.4, *Dust Control and Valley Fever Management Plan*, and 2.5.9.4, *Wildlife-Friendly Design Features*) and the wildlife avoidance measures included in Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.5-5, 3.5.6 and 3.5-7 would minimize potential impacts on these species and help ensure compliance with General Plan Goal OS-E. Therefore, with the implementation of wildlife-friendly design and mitigation, the Rosemary Project would not conflict with and would have a **less-than-significant impact** related to local policies and ordinances protecting biological resources.

> **Mitigation:** Implement Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.4-5, 3.4-6, 3.5-7, and 3.5-8.
>
> **Significance after Mitigation**: Less than significant. Following the application of wildlife-friendly design and the implementation of Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.5-5, 3.5-6, 3.5-7, and 3.5-8, the Rosemary Project will avoid or minimize effects on wildlife species from the construction and operation of the solar facility, thus avoiding conflict with local policies or ordinances protecting biological resources.

PG&E Project

The PG&E Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (*No Impact*)

Because CPUC has exclusive jurisdiction over PG&E's proposed siting, design, and construction of the PG&E Project, the utility is not subject to local land use and zoning regulations or discretionary permits. However, local regulations related to biological resources were reviewed to help ensure that the PG&E Project would not conflict with local policies or ordinances protecting biological resources. As described in Section 3.5.1.3, *Regulatory Setting*, the County has policies and ordinances for protecting biological resources. The PG&E Project site contains wetlands, potential for rare plants, and potentially suitable breeding and nesting habitat for wildlife species, including Crotch's bumblebee, burrowing owl, Swainson's hawk, San Joaquin kit fox, and migratory birds. Implementing standard best management practices and the AMMs for protection of covered species in the 2006 O&M HCP, as well as compliance with applicable state and federal regulations, would minimize potential impacts on these resources Further, PG&E's compliance with Mitigation Measures 3.5-1, 3.5-6 and 3.5-8 regarding compliance with wildlife agency permitting would reduce the PG&E Project's potential impacts on rare plants, special-status terrestrial wildlife species, and wetland features and habitat, reducing these impacts to a less-than-significant level, consistent with the goals and policies in the Fresno County General Plan. Thus, the PG&E Project would not conflict with any local policies or ordinances protecting biological resources. Therefore, there would be no impact.

Criterion f) Whether the Project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The Rosemary Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. (*No Impact)*

There are no adopted natural community conservation plans in Fresno County, and the only approved local, regional, or state HCP in effect at the Project site is the PG&E San Joaquin Valley Operation and Maintenance HCP, PG&E which does not apply to the Rosemary Project. Therefore, there would be **no impact**.

Impact 3.5-10: The PG&E Project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. (*Less-than-Significant Impact*)

The PG&E Project would result in temporary impacts to wetlands and has the potential to impact special-status species, as described under Impact 3.5-1, 3.5-3, and 3.5-4. Because the Project would adhere to the measures contained in the PG&E San Joaquin Valley Operation and Maintenance HCP (2006) to minimize impacts on covered species and resources, this effect would be **less than significant** with no mitigation required.

Mitigation: None required.

3.5.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.5-1**, *Summary of Project Impacts on Biological Resources*, summarizes the biological resources impacts of the Project as a whole.

TABLE 3.5-1
SUMMARY OF PROJECT IMPACTS ON BIOLOGICAL RESOURCES

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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) In Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan	☐	☐	☒	☐

3.5.4 Cumulative Effects

The geographic scope considered for potential cumulative effects on biological resources includes the regional population or corridor extent for each species or community affected. The list of projects considered for the cumulative analysis is provided in Table 3.1-1, *Cumulative Projects List*. The temporal scope of the cumulative analysis is the life of the proposed facility and associated infrastructure, including construction, O&M, decommissioning of the Rosemary Project, and the reconductoring phase of the PG&E Project. Once reconductoring is completed, PG&E's O&M activities for the existing Crescent Switching Station, Helm Substation, and Helm–Crescent 70 kV electric transmission line would be the same as they are under existing (baseline) conditions, which involve minor maintenance activities. Accordingly, the PG&E Project could not cause or contribute to any cumulative effect once reconductoring is complete.

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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Impact 3.5-11: The Rosemary Project would not cause a cumulatively considerable contribution to a significant cumulative effect on special-status plants, special-status terrestrial wildlife species, or migratory birds. (*Less-than-Significant Impact*)

Within the Project region, cumulative projects may have potentially significant impacts on San Joaquin kit fox, burrowing owl, Swainson's hawk, Crotch's bumble bee, and other special-status wildlife species. The Rosemary Project site lacks habitat for rare plants; thus, it would not cause or contribute to any significant, adverse cumulative effect on rare plants. Identified cumulative projects include 16 solar projects recently operational or in development within 15 miles, which also may result in direct impacts on kit fox, burrowing owl, Swainson's hawk, and other species. However, the Rosemary Project includes APMs and mitigation measures to avoid or minimize impacts on these species. The identified cumulative projects also contain mitigation measures and APMs to avoid or minimize impacts. No significant cumulative effects would be expected to special-status terrestrial species from the PG&E Project,

because, during construction, PG&E AMMs and best management practices would protect terrestrial species and birds.

The panels and infrastructure for the Rosemary Project would be located within agricultural fields that are currently disced regularly and thus poorly suited as habitat for special-status wildlife or prey species. The Rosemary Project would also apply APMs such as in Section 2.5.9.3, *Vegetation Management Plan*, which would establish habitat on the Project site, and Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.5-5, 3.5-6, 3.5-7, and 3.5-8. The PG&E R Project would implement AMMs and best management practices and comply with applicable state and federal regulations, to minimize potential impacts on kit fox, Swainson's hawk, burrowing owl, Crotch's bumble bee, and other special-status species. Therefore, the changed land use for the Project and potential impacts on burrowing owl, Swainson's hawk, kit fox and other wildlife habitat, transit, and foraging, when combined with the incremental impacts of other projects, would not result in significant cumulative effects, nor would the Rosemary Project's or PG&E Project's contribution effects be cumulatively considerable. Cumulative effects, and therefore, would be less than significant.

The Applicant's implementation of the APMs and PG&E's implementation of its HCP AMMs 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 Swainson's hawk and other raptors. However, the Rosemary Project size is approximately 1,172 acres, among millions of acres of agricultural lands in Fresno County. With approximately 141,282 acres of suitable foraging habitat within 10 miles, the Rosemary Project site provides approximately 0.8 percent of the foraging habitat within 10 miles (Appendix F1). Therefore, the Project (including the APMs, AMMs, and mitigation measures), in combination with all identified cumulative projects, would not result in a significant cumulative effect on habitat for raptors, including Swainson's hawk. Thus, the Rosemary Project's or PG&E Project's incremental contribution to cumulative effects would not be cumulatively considerable, and therefore, would be less than significant.

Impacts of the Rosemary Project on common and special-status migratory birds would be less than significant with mitigation. Impacts of the PG&E Project on common and special-status migratory birds would be less than significant with implementation of AMMs and best management practices. The existing and proposed solar facilities and residential projects listed as cumulative projects would also have the potential to cause impacts on special-status birds, including injury and mortality associated with collisions during construction and operations. However, the cumulative projects considered in this analysis 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 for the Rosemary Project and AMMs for the PG&E Project would help ensure that the Project as a whole adheres to current APLIC design standards to minimize the potential for avian injury and mortality from collisions and electrocution. Similar measures would be expected for cumulative projects, particularly other solar projects. Because of these factors, the incremental effects of the Rosemary Project and PG&E Project on overall avian fatality from collision risk in the region would not be cumulatively considerable, and so **less than significant**.

Mitigation: None required.

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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The Rosemary Project and PG&E Project would not cause or contribute to any significant, adverse cumulative effect on any riparian habitat or other sensitive natural community because no riparian habitat or other sensitive community is found on the Rosemary Project and PG&E Project sites. (*No Impact*)

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

The Rosemary Project would not cause or contribute to any significant cumulative effect on state or federally protected wetlands because no state or federally protected wetlands are present on the Rosemary Project site. (*No Impact*)

Impact 3.5-12: The PG&E Project would not cause a cumulatively considerable contribution to a significant cumulative effect on state and federally protected wetlands. (*Less-than-Significant Impact with Mitigation Incorporated*)

With implementation of identified mitigation measures and the HCP AMMs and compliance with applicable state and federal law, the PG&E Project's impact on wetlands was reduced to a less-than-significant level. There is no existing significant cumulative effect on wetlands to which the PG&E Project could contribute. The incremental impact of the PG&E Project as subject to the HCP AMMs and with implementation of Mitigation Measure 3.5-8, Habitat Restoration and Monitoring, in combination with the incremental impacts of other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative effect to occur. Accordingly, the cumulative effect would be **less than significant**.

Mitigation: Implement Mitigation Measure 3.5-8.

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.

Impact 3.5-13: The Rosemary Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to substantial interference with established native resident or migratory wildlife corridors. (*Less than Significant with Mitigation Incorporated*)

As analyzed in the context of criterion d) in Section 3.5.3.3, *Direct and Indirect Effects of the Project*, the Rosemary Project would result in a less-than-significant impact with the implementation of APMs proposed as part of the project and with implementation of Mitigation Measure 3.5-76: Wildlife-friendly Site Management. Although the existing and proposed solar facilities and other projects listed as cumulative projects could also have the potential to cause impacts on the ability of San Joaquin kit fox

and other small mammals to pass safely through fenced areas, the closest cumulative project to the Rosemary Project site (the existing San Joaquin Solar project) is located 1 mile to the east. Given the sufficiency of intervening space, the incremental impact of the Rosemary Project on wildlife movement would not be cumulatively considerable, and therefore, the impact would be **less than significant**.

Mitigation: Implement Mitigation Measure 3.5-6.

PG&E Project

The PG&E Project would have no significant effect on wildlife movement due to its small footprint and adherence to AMMs to protect avian species. With no existing significant cumulative effect on wildlife movement, the incremental impacts of the PG&E Reconductoring, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative effect.

Mitigation: None required.

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

The PG&E Project would not cause or contribute to any significant, adverse cumulative effect because it would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (*No Impact*)

Impact 3.5-14: The Rosemary Project could contribute to a cumulative effect due to conflict with local policies or ordinances protecting biological resources. (*Less than Significant with Mitigation Incorporated*)

The Rosemary Project would have a less-than-significant impact relating to criterion e) with the implementation of Mitigation Measures 3.5-2, 3.5-4, and 3.5-6. With the implementation of these mitigation measures, the Rosemary Project's impacts on burrowing owls, nesting birds (including Swainson's hawk), and state and federally protected wetlands would be less than significant and consistent with General Plan Goal OS-E toward protecting wildlife habitat. There is no existing significant cumulative effect on local ordinances and the incremental impact of the Rosemary Project, as mitigated and in combination with other projects, would not cause a significant cumulative effect to occur.

Mitigation: Implement Mitigation Measures 3.5-2, 3.5-3, 3.5-4, 3.5-5, 3.5-6, and 3.5-7.

Criterion f) Whether the Project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The Rosemary Project would not cause or contribute to a significant cumulative effect due to conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. (*No Impact*).

The PG&E Project would have less-than-significant impacts related to HCPs, given its adherence to PG&E HCP measures within the PG&E Project area. No other HCPs or natural community conservation plans apply to the PG&E Project. There is no existing significant cumulative effect with respect to HCPs because the PG&E Project would adhere to all applicable measures. The incremental impacts of the PG&E Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative effect.

Mitigation: None required.

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3.6 Cultural Resources and Tribal Cultural Resources

This section identifies and evaluates issues related to cultural resources and tribal cultural resources, including archaeological resources, historic built architectural resources, and tribal cultural resources. It describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating impacts, and the results of the impact assessment. The County received no input during the scoping period regarding these considerations (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on Project-specific cultural resources inventory assessments prepared on the Applicant's behalf by ICF in October and November 2024 (ICF 2024a, 2024b). The cultural resources inventory assessments contain confidential information that is protected from public disclosure. The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed these assessments 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 G**, *Tribal Cultural Resources*.

3.6.1 Setting

3.6.1.1 Study Area

The study area for purposes of this analysis of potential impacts on cultural resources and tribal cultural resources includes the areas of potential ground disturbance within the Project site, both horizontally (up to 1,375 acres) and vertically (up to a depth of 20 feet). A cultural resources records search was completed with a 0.25-mile buffer around the Project site to support analysis of the likely sensitivity of the Project site 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 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 within 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 1978a).

Pre-Contact Setting

The Central Valley pre-contact record is divided into three periods: Paleo-Indian (11,550 to 8,550 cal B.C.[1]), Archaic (8,550 cal B.C. to cal A.D. 1100), and Emergent (cal A.D. 1100 to Historic). The Archaic

[1] The "cal" prefix indicates that the date reported is the result of radiocarbon calibration using tree ring data.

period is further divided into three sub-periods: Lower Archaic (8,550 to 5,550 cal B.C.), Middle Archaic (5,550 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 to 8,550 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. The closest of these locations is the Tulare Lake Basin, which is approximately 40 miles to the southeast. Little other evidence of human occupation during the Paleo-Indian period is available for the Central Valley.

Lower Archaic (8,550 to 5,550 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 (5,550 to 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).

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. Use of mortars and pestles for food processing was prevalent, except for the valley margins where handstones and millingslabs remained dominant (Rosenthal et al. 2007).

Emergent (cal A.D. 1000 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 and only one cultural pattern, the Panoche Complex (circa A.D. 1500 to 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 prior to A.D. 1400, perhaps by force, as indicated by skeletal remains with fatal wounds inflicted by projectile points (Arkush 1993). Historically, Yokuts have been divided into three cultural-geographical groupings: Northern Valley, Southern Valley, and Foothills (Arkush 1993). Based on what has been written about the territorial boundaries among these three cultural-geographical groupings, the Project site is within the ancestral land boundaries (southwestern portion) of the Northern Valley Yokuts people, and appears to be at the juncture of Northern Valley Yokuts and Southern Valley Yokuts territory.

The territory of the Northern Valley Yokuts is defined roughly by the crest of the Diablo Range on the west and the foothills of the Sierra Nevada on the east. The southern boundary is located approximately where the San Joaquin River bends northward and the northern boundary is roughly halfway between the Calaveras and Mokelumne rivers. Populations were concentrated along waterways and on the more hospitable east side of the San Joaquin River (Wallace 1978a). 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 1978b). A large Southern Valley Yokuts village, *Poso de Chane*, was located about 6 miles east of present-day Coalinga (approximately 30 miles south 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 2013).

One of the earliest Spanish trails, known as El Camino Viejo (The Old Road), ran north-south through the San Joaquin Valley extending from San Pedro to San Antonio (present-day East Oakland). The trail followed the path of an indigenous trail and skirted the eastern slope of the Coast Range foothills (about 4 miles east of the Project site). El Camino Viejo was an alternative route to heavily traveled El Camino Real (the Royal Road) and was often the preferred route of those wishing to travel without the knowledge of the Spanish government. The trail became a stagecoach and mail route and also 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 secularization of the missions and promoting settlement of Alta California through the issuance of land grants and liberal colonization laws, which did not prevent foreigners from settling in Mexican territory. This allowed for a significant 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 that included parts of Fresno County (Hoover et al. 1990; Shumway 2007).

In 1848, gold was discovered at Sutter's Mill resulting in a large influx of immigrants hoping to make their fortunes. After cessation of the Mexican-American War in the same year, California was ceded to the United States, officially becoming a state in 1850. Mexico's public lands became United States public lands and were surveyed, sectioned, and made available for sale/settlement (Hoover et al. 1990; Shumway 2007; State Lands Commission 1982).

The federal government passed 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 residence, improvement, and cultivation of the land. A claim for a 160-acre parcel could be made by anyone who was over the age of 21, head of a household, and paid an $18 fee. The act allowed single women, former slaves, and new immigrants an opportunity to own land, provided they improved and lived on the land for 5 years. While these laws were designed to give individual settlers and families

access to land ownership, 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 in order 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 County seat in 1874. The original County seat was in Millerton, 25 miles north of Fresno, but the decision was made to move the County seat south to gain access to the railroad (Hoover et al. 1990).

With the waning of the mining industry in the mid-1860s, many turned to raising cattle and sheep in the valley, including many Basque and Portuguese immigrants who had been shepherds in their native land (Graves 2004; Miller 2013). Sheep primarily were herded on the uninhabited west side, feeding on wild alfalfa or rented to stubble land.

After the decline of the cattle industry in the 1870s, the grain industry rose to prominence. In 1889, the San Joaquin Valley wheat crop topped 40 million bushels, the largest crop in the United States except that produced by the entire state of Minnesota. Over 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-1900s left many San Joaquin Valley Portuguese sheepherders unemployed and many turned to the growing dairy farming. Most began as milk hands, saving income until they could start their own dairy farms. By the 1930s, Portuguese 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, n.d.). 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 the following (Code of Federal Regulations [CFR] Title 36, Section 60.2):

> *[A]n 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.*

The National Register recognizes both historical-period and pre-contact 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 its significance (36 CFR Section 60.4):

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; or
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 act 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 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. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It 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. It 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, 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 causes a substantial adverse change in the significance of an historical resource. The CEQA Guidelines (14 Cal. Code Regs. Section 15064.4) recognize that an historical resource includes:

(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 an historical resource would be materially impaired) in the significance of an historical resource, then the lead agency must identify

potentially feasible measures to mitigate these effects (14 Cal. Code Regs. Sections 15064.4[b][1], 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:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important pre-contact 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, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Public Resources Code Section 21083.1[a]). If preservation in place is not feasible, then mitigation measures shall be required.

If an archaeological resource is neither a unique archaeological nor a historical resource, then the effects of the project on those resources shall not be considered a significant effect on the environment (14 Cal. Code Regs. Section 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 has been codified as Public Resources Code Sections 21080.3.1, 21074, and 21084.2, and established a new category of cultural resources known as tribal cultural resources in order for state and local agencies to consider tribal cultural values when determining impacts on cultural resources. Public Resources Code Section 21074(a) defines a *tribal cultural resource* as any 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; or
  - included in a *local register of historical resources*, as defined in Public Resources Code Section 5020.1(k).[2]

[2] 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."

- 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).[3] 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)[4] also is a tribal cultural resource if the landscape is geographically defined in terms of the size and scope.
- An historical resource as described in CEQA Section 21084.1,[5] a unique archaeological resource as defined in CEQA Section 21083.2,[6] or a non-unique archaeological resource as defined in CEQA Section 21083.2[7] may also 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 archaeological resources (Public Resources Code Sections 21074, 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 lead agencies to engage in additional consultation procedures with respect to California Native American tribes (Public Resources Code Sections 21080.3.1, 21080.3.2, 21082.3).

Native American Heritage Commission

The Native American Heritage Commission (NAHC) identifies and manages a catalog of places of special religious or social significance to Native Americans. This database, known as 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 5097.9–5097.991 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.

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[3] 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."

[4] 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).

[5] Public Resources Code Section 21084.1 defines an *historical resource* as "a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources."

[6] 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."

[7] 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)."

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 determined to be Native American, the coroner must contact the NAHC.

Other Relevant State Regulations

Sections of the Public Records Act (Government Code Sections 6254[r], 6254.10), as well as 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 codes provide protection from unauthorized excavation, looting, or vandalism; guidance following discovery of human remains; penalty for injuring or destroying objects of historic or archaeological interest; and penalty for unauthorized disturbance or removal of archaeological or historical features.

Local

Fresno County 2024 General Plan

The Fresno County 2024 General Plan Policy Document (2024) Open Space and Conservation Element contains several objectives and policies relevant to the protection of cultural resources within the Project site and surrounding area. The Historical, Cultural, and Geological Resources section of the Open Space and Conservation Element provides policies directing the protection of historical and archaeological resources within the County.

> **Goal OS-J:** To identify, protect, and enhance Fresno County's important historical, archeological, paleontological, geological, and cultural sites and their contributing environment, and promote and encourage preservation, restoration, and rehabilitation of Fresno County's historically significant resources in order to promote historical awareness, community identify, and to recognize the county's valued assets that have contributed to past county events, trends, styles of architecture, and economy.
>
> ***Policy OS-J.1: Preservation of Historic Resources*.** The County shall encourage preservation of any sites and/or buildings identified as having historical significance pursuant to the list maintained by the Fresno County Historic Landmarks and Records Advisory Commission.
>
> ***Policy OS-J.2: Historic Resources Consideration*.** The County shall consider historic resources during preparation or evaluation of plans and discretionary development projects that may impact buildings or structures. For a project projected on a project that includes buildings, structures, objects, sites, landscapes or other features that are 45 years of age or older at the time of permit application, the project applicants shall be responsible for preparing and implementation of the recommendations of a historical resources evaluation completed by qualified cultural resources practitioners.
>
> ***Policy OS-J.14: Cultural Resources Protection and Mitigation*.** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, tribal, paleontological, and cultural sites and resources. For projects requiring ground disturbance and located within a high or moderate cultural sensitivity areas, a cultural resources technical report may be warranted, including accurate archival research and site surveys conducted by qualified cultural resources practitioners. The need to prepare such studies shall be determined based on the tribal consultation process and initial outreach to local or state information centers.

Policy OS-J.6: Native American Consultation. 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

Research completed for the Project consisted of two records searches of the Project site and a 0.25-mile radius buffer at the Southern San Joaquin Valley Information Center (SSJVIC), located at the California State University, Bakersfield. The SSJVIC, an affiliate of the State of California Office of Historic Preservation (OHP), is the official state repository of cultural resource records and reports for Fresno County. Staff at the SSJVIC conducted the records search at the request of ICF (Records Search File No: 23-441 and 24-437). As part of the records searches, the following federal and State of California inventories were reviewed:

- California Inventory of Historic Resources (OHP 2012, 2022);
- California Points of Historical Interest (OHP 2012, 2022);
- California Historical Landmarks (OHP 2012, 2022);
- Built Environment Resources Directory for Fresno County (OHP 2022); and
- Archaeological Determinations of Eligibility for Fresno County (OHP 2012)

Historic research also was performed to better understand the history of land use of the Project site. This research consisted of reviewing historic literature, topographic maps, general land office plats and federal land patents, and aerial imagery. SSJVIC records indicate that five previous technical studies have been completed within the records search area, and, of these, four of the studies intersected portions of the Project site. The records searches and historic research indicate that four built environment resources, Crescent Canal (P-10-004703), Beta Main Canal / James Irrigation District: Lateral A (P-10-006613), James Irrigation District Canal (P-10-006632), and San Luis Drain (P-10-006639) were identified within and adjacent to the Project site. None of these resources have had their eligibility formally determined for the National Register or the California Register. Therefore, these resources are considered historical resources for the purposes of this Project.

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 October 25, 2024. No tribe responded to the County within 30 days or before the issuance of this Draft EIR.

Additionally, ICF contacted the NAHC on December 22, 2023, and September 20, 2024, to request a search of the Sacred Lands File. The NAHC responded on December 29, 2023, and September 30, 2024, that the search failed to identify any Native American resources in or near the Project site and provided a list of individuals and organizations to contact that may have additional information (ICF 2024a, 2024b).

Archaeological Field Surveys

Rosemary Project Survey

ICF conducted an intensive pedestrian survey of the Rosemary Project site on November 27, 28, 29 and 30, 2023, and October 2, 2024. Intensive pedestrian survey methods consisted of walking in 15-meter-wide transects across the entirety of the Rosemary Project site. Ground visibility ranged from poor to excellent with most of the area having been recently plowed due to agricultural activities. Visibility obstructions were limited to high amounts of mature grass and sparse alluvial grasses near the PG&E Crescent Switching Station east of the Rosemary Project site.

As a result of the survey, no indications of archaeological sites such as discolored soils, artifacts, or archaeological features were observed in the Rosemary Project site. The two previously recorded built environment resources identified through the record search were revisited and found to be in similar condition and construction as other previously recorded segments beyond the Rosemary Project site. Most of the San Luis Drain (P-10-006639) was located along the northern boundary of the Rosemary Project site directly south of West Kamm Avenue with the concrete-lined drain heading southeast after the intersection of South Yuba Avenue and West Kamm Avenue. The Crescent Canal (P-10-004703) observed as an earthen canal also crosses the proposed gen-tie route just southeast of the intersection of West Kamm Avenue and South Yuba Avenue. At this point, the resources run parallel to each other.

PG&E Project Survey

ICF conducted an intensive pedestrian survey of the PG&E Project site on October 2, 2024. Intensive pedestrian survey methods consisted of walking in 15-meter-wide transects across the entirety of the PG&E Project site. Approximately 134 acres were intensively surveyed. Areas that were previously surveyed during the Rosemary Project site survey (ICF 2024a) were not resurveyed. Less than 2 acres was not surveyed due to private property and dense low-lying crops on either side of South Placer Avenue and inaccessibility to the PG&E Crescent Switching Station on West Kamm Avenue. Ground visibility ranged from poor to excellent throughout the PG&E Project site. Visibility obstructions were limited to dense growing crops on either side of South Placer Avenue, and high amounts of mature teff grass and sparse alluvial grasses near the PG&E Crescent Switching Station, the PG&E Helm Substation on South Placer Avenue, and along South Yuba Avenue.

As a result of the survey, no indications of archaeological sites such as discolored soils, artifacts, or archaeological features were observed in the PG&E Project site. Three previously recorded built environment resources identified through the record search were revisited and found to be in similar condition and construction as other previously recorded segments beyond the PG&E Project site. Most of the San Luis Drain (P-10-006639) was located along the southern boundary of the PG&E Project site directly south of West Kamm Avenue with the concrete-lined drain heading southeast after the intersection of South Yuba Avenue and West Kamm Avenue. The Crescent Canal (P-10-004703) observed as an earthen canal also crosses the PG&E Project site just southeast of the intersection of West Kamm Avenue and South Yuba Avenue. The Beta Main Canal (P-10-006613) was observed as an earthen canal that horizontally intersects the PG&E Project site along South Yuba Avenue north of the Fresno Slough. The James Irrigation District Canal (P-10-006632), was observed as horizontal earthen canals along West Floral Avenue and West Dinuba Avenue.

Potential for Unknown Buried Cultural Resources

The United States Geological Survey (USGS) and Meyer and Brandy (2019) characterized deposits in the region as Recent Holocene (600-100 years old) Great Valley basin deposits (Bishop and Chapman 1980). No major rivers, streams, or drainages flow through the Project site.

Geoarchaeological sensitivity analysis (Meyer and Brandy 2019) 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 human activity in the past, and therefore archaeological site formation, occurred more frequently in flat areas close to water sources, such as rivers, lakes, and springs. Compared with sloped landforms, flat landforms would be expected to be more attractive for occupation, as well as being 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 Rosemary Project site has a low sensitivity for surficial and buried pre-contact archaeological resources. The PG&E Project site travels through small bands of moderate, high, and highest sensitivity for both surficial and buried pre-contact archaeological resources as it crosses Fresno Slough (Meyer and Brandy 2019). The bands of heightened sensitivity are fairly narrow and overall consist of less than 1 mile of the 5-mile-long reconductoring line. The low sensitivity of the Project site is corroborated by the records search and survey results, in which no pre-contact cultural resources have been recorded within the Project site or 0.25-mile of the Project site.

The ground surface of the Project site has also been highly disturbed by previous agricultural activities. While agricultural fields can disturb archaeological deposits, they do not always erase them; to the contrary, such activities can bring buried deposits to the surface. No such deposits were identified in the Project site during the surface surveys. As such, the Project site is characterized as having a low potential for discovering significant archaeological deposits.

3.6.2 Significance Criteria

A project would result in significant impacts on air quality 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).

3.6.3 Direct and Indirect Effects

3.6.3.1 Applicant-Proposed Measures and Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. None of the APMs focused on Cultural Resources or Tribal Cultural Resources.

Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.5, *Worker Environmental Awareness Programs*, would provide environmental awareness training on archeological resources protection and procedures that should be followed in the event of a cultural resource or human remain discovery.

3.6.3.2 Methodology

To evaluate the Project's potential effects on significant cultural resources and tribal cultural resources, a cultural resources characterization and inventory of the Project site was undertaken. This included a literature review, Native American outreach, geoarchaeological review, and field survey for areas of potential permanent and temporary impacts where facilities would be installed (ICF 2024a, 2024b). The purpose of this inventory was to identify any cultural resources and tribal cultural resources that may be present within the Project site. Additionally, under Public Resources Code Section 21080.3.1, Fresno County invited consultation with local tribes to solicit input on potential tribal cultural resources in proximity to the Project site.

3.6.3.3 Direct and Indirect Effects of the Project

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.

There are four historic-era water conveyance resources that intersect the Project site. The Crescent Canal (P-10-004703), Beta Main Canal / James Irrigation District: Lateral A (P-10-006613), and James Irrigation District Canal (P-10-006632) are unlined ditches that briefly intersect the PG&E Project alignment. The San Luis Drain (P-10-006639) is a concrete-lined ditch that borders the northern edge of the Rosemary Project site and intersects the PG&E Project site at the southern end. The Crescent Canal (P-10-004703) observed as an earthen canal also crosses the proposed gen-tie route for the Rosemary Project just southeast of the intersection of West Kamm Avenue and South Yuba Avenue. These four resources are

assumed eligible for the California Register for the purposes of this Project and are therefore considered historical resources. However, none of these resources could be impacted by the Project. The PG&E Reconductoring line would cross over the Crescent Canal (P-10-004703), Beta Main Canal / James Irrigation District: Lateral A (P-10-006613), and James Irrigation District Canal (P-10-006632), but no Project features would be installed within the boundaries of these resources. Additionally, no components of the Rosemary Solar Project or the PG&E Project would be within the boundary of the San Luis Drain (P-10-006639). Therefore, the Rosemary Project and the PG&E Project would result in **no impact** to historical resources (*No Impact*).

Mitigation: None required.

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.

Impact 3.6-1: Ground disturbing activities associated with the Rosemary 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*)

This section discusses archaeological resources, both as historical resources according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources, as defined in Public Resources Code Section 21083.2(g). A significant impact would occur if the Rosemary Project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

The Rosemary Project could cause an impact on previously unknown, buried archaeological resources due to construction activities, pole placement, or other ground-disturbing activities. According to the geoarchaeological review, the Rosemary Project site has low sensitivity for buried archaeological resources based on the geomorphology, proximity to water, and landform slope. Nonetheless, given that the general vicinity is covered by Holocene basin and fan deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that the deposition of soils has buried pre-contact archaeological sites that once existed on the surface. Therefore, although overall there is a low probability of significant pre-contact resources existing within the Rosemary Project site, there nevertheless exists the possibility that buried archaeological resources may be encountered during ground disturbing activities.

If an unknown archaeological resource is discovered during ground-disturbing activities required for construction or operation and maintenance of the Rosemary Project, a significant impact 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 to any newly-discovered historical or unique archaeological resources would be mitigated to **less than significant**.

Decommissioning and reclamation of the Rosemary Project and restoration of the Rosemary Project site would not impact historical or unique archaeological resources. Ground disturbance associated with these

activities would occur within soils previously disturbed by construction and subject to Mitigation Measures 3.6-1 and 3.6-2. Therefore, **no impact** to historical and unique archaeological resources would result from decommissioning of the Rosemary Project.

Mitigation Measure 3.6-1: Cultural Resources Awareness Training

The Project owner shall retain a qualified archaeologist to carry out all mitigation measures related to archaeological and historical resources. Prior to the start of any ground-disturbing activities, the Project owner shall help ensure that the qualified archaeologist has conducted a Cultural Resources Awareness Training for all construction personnel working on the Project. 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 ground-disturbing activities to demonstrate attendance at the awareness training, and provided to the County upon the completion of those activities.

Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources

If archaeological resources are discovered during ground-disturbing activities, all such activities will immediately stop within 100 feet (30 meters) of the discovery, the location of the discovery will be marked for avoidance, and efforts will be made to prevent inadvertent destruction of the find.

The qualified archaeologist (and a Native American 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 Project owner. Per CEQA Guidelines section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall (in coordination with a Native American representative if the resource is Native American-related) 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. Construction activities can continue based on direction of the qualified archaeologist.

Significance after Mitigation: Less than Significant. The implementation of Mitigation Measure 3.6-1 and Mitigation Measure 3.6-2 would reduce the impact to a **less-than-significant** level because if any cultural resources are identified during Rosemary Project construction within the Rosemary Project site, these measures establish a plan to evaluate the resource for eligibility and, if necessary, prepare a treatment plan to minimize impacts to the resource.

Impact 3.6-2: Ground disturbing activities associated with the PG&E 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 Impact*)

Similar to the Rosemary Project, the PG&E Project could cause an impact on previously unknown, buried archaeological resources due to pole replacement or other ground-disturbing activities. No impacts are expected for substation upgrades, which would occur within existing facilities and would require limited,

if any, ground disturbance. According to the geoarchaeological review, the PG&E Project site travels through small bands of moderate, high, and highest sensitivity for both surficial and buried pre-contact archaeological resources as it crosses Fresno Slough (Meyer and Brandy 2019). The bands of heightened sensitivity are fairly narrow and overall consist of less than 1 mile of the 5-mile-long reconductoring line. Further, given the limited extent and relatively shallow excavation needed for most construction activities and the limited amount of excavation that would occur, it is not expected that archaeological resources would be disturbed. Nonetheless, given that the general vicinity is covered by Holocene basin and fan deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that the deposition of soils has buried pre-contact archaeological sites that once existed on the surface. Therefore, although overall there is a low probability of significant pre-contact resources existing within the PG&E Project site, there nevertheless exists the possibility that buried archaeological resources may be encountered during ground disturbing activities.

O&M activities for the PG&E Project would pose no impact to these resources because the activities needed for O&M would not result in ground disturbance or would occur in areas previously disturbed during construction. The PG&E Project would not be decommissioned; thus, there would be **no impact** associated with decommissioning.

For the PG&E Project, to avoid or substantially reduce potential significant adverse impacts on unknown, buried archaeological resources during construction, PG&E would comply with applicable laws pertaining to the discovery of cultural resources and human remains, and also would implement *Standard Practices*, as described in Section 2.6.7.5, *Worker Environmental Awareness Programs*, which would require environmental awareness training on archeological resources protection and procedures that should be followed in the event of a cultural resource or human remain discovery. Thus, impacts associated with the PG&E Project would be **less than significant**.

Criterion c) Whether the Project would disturb any human remains, including those interred outside of formal cemeteries.

Impact 3.6-3: Ground disturbing activities associated with the Rosemary Project could result in damage to previously unidentified human remains. (*Less than Significant with Mitigation Incorporated*)

As described above, there is no indication that the Rosemary Project site has been used for human burial purposes in the recent or distant past. However, in the event that human remains are discovered, including those interred outside of formal cemeteries, the human remains could be inadvertently damaged, which would be a significant impact for the purposes of CEQA. Implementation of **Mitigation Measure 3.6-3** would help ensure that any human remains encountered pursuant to the Rosemary Project are appropriately addressed, thus reducing any potential impacts to a **less-than-significant** level.

Operation and maintenance of the Rosemary Project would cause **no impact** to human remains because no ground disturbance would occur at depths greater than those reached during construction.

Decommissioning and site reclamation activities similarly would not impact human remains. For the Rosemary Project, ground disturbances associated with decommissioning and site reclamation activities would occur within soils previously disturbed by construction and subject to **Mitigation Measure 3.6-3**.

> **Mitigation Measure 3.6-3: Inadvertent Discovery of Human Remains**
>
> If human remains are uncovered during Project activities, the Project owner shall immediately halt work, contact the Fresno County coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines section 15064.5(e). If the County Coroner determines that the remains are Native American in origin, the Native American Heritage Commission (NAHC) will be notified, in accordance with Health and Safety Code section 7050.5(c), and Public Resources Code section 5097.98 (as amended). The NAHC shall designate a Most Likely Descendant for the remains per Public Resources Code section 5097.98, and the Project owner shall help ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further activity under the Project owner has discussed and conferred, as prescribed in Public Resources Code section 5097.98 with the Most Likely Descendant regarding their recommendation for the disposition of the remains, taking into account the possibility of multiple human remains.
>
> **Significance after Mitigation:** Less than Significant. The specific regulations regarding proper handling of previously unknown human remains encountered during construction are specified above and compliance with these independently enforceable laws would avoid significant impacts on human remains. In conjunction with the training and monitoring protocols identified in Mitigation Measures 3.6-1 and 3.6-2, potential impacts to unknown human remains would be **less than significant**.

Impact 3.6-3: Ground disturbing activities associated with the PG&E Project could result in damage to previously unidentified human remains. (*Less-than-Significant Impact*)

Similar to the Rosemary Project, there is no indication that the PG&E Project site has been used for human burial purposes in the recent or distant past. However, in the event that human remains are discovered, including those interred outside of formal cemeteries, the human remains could be inadvertently damaged, which would be a significant impact for the purposes of CEQA. Operation and maintenance of the PG&E Project would cause no impact to human remains because no ground disturbance would occur at depths greater than those reached during construction. The PG&E Project would not be decommissioned; thus, there would be **no impact** associated with decommissioning.

PG&E would comply with applicable laws pertaining to the discovery of cultural resources and human remains, and also would implement *Standard Practices*, as described in Section 2.6.7.5, *Worker Environmental Awareness Programs*, which would require environmental awareness training on archeological resources protection and procedures that should be followed in the event of a cultural resource or human remain discovery. Thus, impacts associated with the PG&E Project would be **less than significant**.

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).

Impact 3.6-4: Ground disturbing activities associated with the Rosemary 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*)

No tribes responded to the County's tribal outreach efforts, no pre-contact archaeological resources were identified with 0.25-mile of the Rosemary Project site during the records search, and the NAHC Sacred Lands File search was negative for Native American resources in the vicinity of the Project. Therefore, no tribal cultural resources have been identified within the Rosemary Project site.

However, there is the potential, although low, for pre-contact archaeological resources to be identified during ground-disturbing activities that are also tribal cultural resources. 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**, **3.6-2**, and **3.6-3** would help ensure that any archaeological resources encountered at the Rosemary Project site that are considered tribal cultural resources would be treated in consultation with Native American representatives to determine appropriate treatment, thus reducing any potential impacts to a **less-than-significant** level.

Operation, maintenance, and decommissioning of the Rosemary Project would cause **no impact** to tribal cultural resources because no ground disturbance would occur at depths greater than those reached during construction.

> **Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measures 3.6-1, 3.6-2, and 3.6-3 would reduce the potential impact for the Rosemary Project 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.

Impact 3.6-5: Ground disturbing activities associated with the PG&E 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 Impact*)

Although no tribal cultural resources have been identified within the PG&E Project site, there is the potential, although low, for pre-contact archaeological resources to be identified during ground-disturbing activities that are also tribal cultural resources. Such resources could be damaged or destroyed through earthwork, ground disturbance, or other subsurface construction activities. Operation and maintenance of the PG&E Project would cause no impact because no ground disturbance would occur at depths greater than those reached during construction. The PG&E Project would not be decommissioned; thus, there would be **no impact** associated with decommissioning.

PG&E would comply with applicable laws pertaining to the discovery of cultural resources and human remains, and also would implement *Standard Practices*, as described in Section 2.6.7.5, *Worker Environmental Awareness Programs*, which would require environmental awareness training on archeological resources protection and procedures that should be followed in the event of a cultural resource or human remain discovery. Thus, impacts associated with the PG&E Project would be **less than significant**.

3.6.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.6-1**, *Summary of Project Impacts on Cultural Resources and Tribal Cultural Resources*, summarizes the cultural resources and tribal cultural resources impacts of the Project as a whole.

TABLE 3.6-1
SUMMARY OF PROJECT IMPACTS ON CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
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)?	☐	☒	☐	☐

3.6.4 Cumulative Effects

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.

As analyzed in Section 3.6.3.3, the Project would result in **no impact** due to a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. Accordingly, neither the Rosemary Project nor the PG&E Project would cause or contribute to any potential significant cumulative effect relating to criterion a). (*No Impact*).

Criteria b), c) and d) Whether the Project would cause a substantial adverse change in the significance of an archeological resource or a significant impact due to the disturbance of human remains or on tribal cultural resources.

Impact 3.6-6: Ground disturbing activities associated with the Project would not contribute to any significant cumulative effect on archaeological resources, buried human remains, or tribal cultural resources. (*Less-than-Significant Impact*)

The geographic scope for cumulative effects to cultural resources, buried human remains, and tribal cultural resources comprises a 5-mile radius from the Project site. The geographic scope of analysis is appropriate because the archaeological resources within this radius are expected to be similar to those that occur on the Project site because 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, research, and the prehistoric context, the area within this 5-mile radius of the Project site may contain a significant archaeological record that has not been well-documented or recorded. Therefore, this analysis conservatively assumes that the land within this area contains cultural resources that are not yet known, potentially including archeological resources, human remains interred outside formal cemeteries, or tribal cultural resources.

The temporal scope for cumulative effects to 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 effect if criteria b), c) or d) as described in Section 3.6.2, *Significance Criteria*, were 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 relating to cultural resources or tribal cultural resources in the geographic area of cumulative consideration to which the Project could contribute; further, the Project's incremental contribution to cumulative effects, when combined with the incremental impacts of other past, present, and reasonably foreseeable future projects would not cause a significant cumulative effect. Rosemary Project-level mitigation measures would require cessation of activities and buffering of finds, and PG&E *Standard Practices* would require environmental awareness training on cultural resources and human remains protection and procedures that should be followed in the event of a discovery, in a manner that would substantially reduce the incremental contribution of the Project or alternatives to any potential

cumulative effect. Similarly, other projects in the cumulative scenario would be subject to regulatory controls such as Public Resource Code provisions protecting archaeological resources and human remains, as presented in the regulatory setting. Thus, even if it conservatively is assumed that a potential significant cumulative effect exists, the Project's negligible contribution would not be cumulatively considerable. Accordingly, the Rosemary Project and the PG&E Project would have a **less than significant** cumulative effect related to cultural resources, human remains, and tribal cultural resources.

3.6.5 References

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3.7 Energy

This section identifies and evaluates issues related to electricity and transportation fuels (*energy* for purposes of this EIR). 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 comments pertaining to energy (see **Appendix A**, *Scoping Report*).

This analysis is based in part on project-specific air quality and greenhouse gas emissions technical reports prepared by ICF for the Project (**Appendices E1** and **E2**). 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 the preparation of the EIR. In addition, on Fresno County's behalf, Environmental Science Associates (ESA) prepared fuel- and electricity-use calculations (**Appendices E3** and **E4**, respectively).

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 Pacific Gas and Electric Company (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

State Energy Use and Production

Total energy usage in California was 6,882 trillion British thermal units (Btu) in 2022, which equates to an average of 176 million Btu per capita. These figures place California second among the nation's 50 states in total energy use and 49th in per capita consumption. Electricity and natural gas in California are consumed primarily by stationary users such as residences and commercial and industrial facilities, whereas petroleum-based fuel consumption is generally accounted for by transportation-related energy use. Of this 6,882 trillion Btu usage, approximately 43 percent came from transportation sources, 22 percent industrial, 18 percent residential, and 17 percent commercial (EIA 2025).

In 2023, California was the nation's fourth-largest electricity producer and accounted for about 5 percent of all U.S. utility-scale (1-megawatt and larger) power generation. California imports more electricity than any other state and typically receives between one-fifth and one-third of its electricity supply from outside of the state. However, in 2023, in-state utility-scale electricity generation equaled about 90 percent of California's electricity sales, and the rest of the state's power supply came from out of state (EIA 2025). In 2023, total system electric mix for California (in-state plus imports) was 281,140 gigawatt-hours (GWh), down 2.1 percent (6,080 GWh) from 2022. Electricity from non–carbon dioxide emitting electric generation categories (i.e., nuclear, large hydroelectric, and renewable generation) accounted for approximately 58 percent of total in-state generation for 2022, compared to 54 percent in 2022, California's 2023 in-state generation of 215,623 GWh increased from 194,127 GWh in 2022 (CEC 2025a). California's wide variety

of climate and weather systems play a large role in how the various generation resources shape the annual power mix, as well as the policy push for fossil free energy.

PG&E Electric Utility Operations

PG&E provides bundled services (i.e., electricity, transmission, and distribution services) to 16 million customers[1] in its service territory, which extends 70,000 square miles of California. 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 2024).

Generation Sources

In 2024, PG&E owned approximately 7,815 megawatts (MW) of generating capacity, itemized below (see **Table 3.7-1**, *PG&E-Owned 2024 Electricity Generation Sources*). The remaining electrical power is purchased from other sources in and outside of California (PG&E 2025).

TABLE 3.7-1
PG&E-OWNED 2024 ELECTRICITY GENERATION SOURCES

Source	Generating Capacity (MW)
Nuclear (Diablo Canyon—two reactors)	2,240
Hydroelectric[a]	3,840
Fossil Fuel–Fired[b]	1,400
ESS[c]	183
Solar Photovoltaic[d] (12 units, 11 in Fresno County and 1 in Kings County)	152
Total	**7,815**

NOTES: MW = megawatts; PG&E = Pacific Gas and Electric Company

a. PG&E's hydroelectric system consists of 94 generating units at 58 powerhouses.
b. PG&E's fossil fuel-fired facilities are Colusa (657 MW), Gateway (580 MW), and Humboldt Bay (163 MW) generating stations.
c. PG&E''s battery ESS is Elkhorn Battery Energy Storage System located in Monterey County.
d. PG&E''s large photovoltaic facilities are Cantua (20 MW), Five Points (15 MW), Gates (20 MW), Giffen (10 MW), Guernsey (20 MW), Huron (20 MW), Stroud (20 MW), West Gates (10 MW), and Westside (15 MW).

SOURCE: PG&E 2025

Renewable Energy Resources

Renewable generation resources 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**, *PG&E 2024 Renewable Energy Sources*, 23 percent of PG&E's energy deliveries were from renewable energy sources in 2024 (PG&E 2025).

[1] Customers include residential, commercial, industrial, and agricultural consumers.

TABLE 3.7-2
PG&E 2024 RENEWABLE ENERGY SOURCES

Source	Percent of Total Energy Portfolio
Solar	15
Wind	3
Biopower	3
Geothermal	--
RPS-Eligible Hydroelectric	2
Total	**23**

NOTES: PG&E = Pacific Gas and Electric Company; RPS = Renewables Portfolio Standard
SOURCE: PG&E 2025

Gasoline and Diesel

Gasoline is a fuel made from crude oil and other petroleum liquids. It is the most-consumed petroleum product in the U.S. In 2022, consumption of finished motor gasoline averaged about 8.78 million barrels per day (369 million gallons per day), which was about 43 percent of total U.S. petroleum consumption. Most of the finished motor gasoline now sold in the U.S. contains about 10 percent fuel ethanol by volume, mainly added to meet Renewable Portfolio Standard (RPS) requirements (see State Regulatory Setting, below; EIA 2022a). Most of the diesel fuel produced and consumed in the U.S. is refined from crude oil at petroleum refineries. U.S. petroleum refineries produce an average of 11 to 12 gallons of diesel fuel from each 42-gallon barrel of crude oil (EIA 2022b). The California Energy Commission (CEC) estimates that 372 million gallons of gasoline and approximately 81 million gallons of diesel were sold in 2023, in Fresno County and that there are 380 gasoline stations in the County (CEC 2025b).

Electricity Consumption in Fresno County

In 2023, total electricity consumption in Fresno County was 7,414 GWh, down 9.8 percent (811 GWh) from 2022. In Fresno County, approximately 40 percent of electricity consumption is associated with residential uses and approximately 60 percent of electricity consumption is associated with non-residential uses (CEC 2025c).

3.7.1.3 Regulatory Setting

Federal

Federal policies and regulations set broad energy efficiency standards and incentives, such as for consumer products and automobile and fuel efficiency. Such requirements, as those listed below, typically apply to the manufacturing sector and are not directly applicable to the Project. Nonetheless, they are listed here for informational purposes.

National Energy Policy Act of 2005

The National Energy Policy Act of 2005 sets equipment energy efficiency standards. It also seeks to reduce reliance on nonrenewable energy resources and provides incentives to reduce current demand on these resources. Under the act, consumers and businesses can attain federal tax credits for constructing

energy-efficient buildings, improving the energy efficiency of commercial buildings, and purchasing fuel-efficient appliances and products, including hybrid vehicles. Tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

President George W. Bush signed Executive Order 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), in 2007, to strengthen the key energy management goals for the federal government and sets more challenging goals than the National Energy Policy Act of 2005. The energy reduction and environmental performance requirements of Executive Order 13423 were expanded upon in Executive Order 13514 (Federal Leadership in Environmental, Energy, and Economic Performance), which Present Obama signed in 2009.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 sets federal energy management requirements in several areas. These requirements include energy reduction metrics for federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, and energy-efficient product procurement. Reductions in petroleum use are also required, including by setting automobile efficiency standards and an increase in alternative fuel use.

Corporate Average Fuel Economy Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration and Environmental Protection Agency (EPA) jointly administer the standards. The U.S. Congress has specified that these standards must be set at the "maximum feasible level" with consideration given to the following:

(1) Technological feasibility;

(2) Economic practicality;

(3) Effect of other standards on fuel economy; and

(4) Need for the nation to conserve energy.[2]

State

Warren-Alquist Act

The 1975 Warren-Alquist Act 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.

California Energy Action Plan

California's *2008 Energy Action Plan Update* revised the *2005 Energy Action Plan II,* which is the state's principal energy planning and policy document. The plan maintains the goals of the original *Energy Action Plan*, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to help ensure that California's energy is adequate, affordable, technologically advanced, and

[2] For more information on the Corporate Average Fuel Economy standards, see https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy.

environmentally sound. First-priority actions to address California's increasing energy demands are to promote energy efficiency, demand response (i.e., reducing customer energy usage during peak periods to address power system reliability and support the best use of energy infrastructure), and use of renewable power sources. To the extent that these strategies are unable to satisfy increasing energy and capacity needs, the plan supports clean and efficient fossil-fuel fired generation.

State of California Integrated Energy Policy

In 2002, the Legislature enacted Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan biannually for electricity, natural gas, and transportation fuels for the California Energy Report. SB 1389 requires the CEC to prepare a biennial Integrated Energy Policy Report (IEPR) that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors. This report provides policy recommendations to conserve resources, protect the environment, help ensure reliable, secure, and diverse energy supplies, enhance the state's economy, and protect public health and safety (Public Resources Code Section 25301[a]). The IEPR has replaced the Energy Action Plan as the chief program intended to provide a comprehensive statewide energy strategy to guide energy investments, energy-related regulatory efforts, and greenhouse gas reduction measures.

The 2025 IEPR is currently undergoing public review, but the 2024 IEPR provides the results of CEC assessments on a variety of energy issues facing California, focusing on the key topics of wave and tidal energy resources, energy reliability, fossil fuel transition, and distributed energy resources (CEC 2024).

Renewable Portfolio Standard

California's RPS program was established in 2002 by SB 1078 with the initial requirement that 20 percent of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2015 with SB 350, which mandated a 50 percent RPS by 2030. SB 350 includes interim annual RPS targets with 3-year compliance periods and requires 65 percent of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which again increased the RPS to 60 percent by 2030 and requires all the state's electricity to come from carbon-free resources by 2045 (CPUC 2025).

SB 1020, signed on September 16, 2022, revised SB 100, instead requiring that renewable energy resources and zero-carbon resources supply 90 percent of all retail electricity sales to end-use customers by December 31, 2035; 95 percent by December 31, 2040; and 100 percent of by December 31, 2045. SB 1020 also requires the supply of 100 percent renewable electricity and zero-carbon resources to serve all state agencies by December 31, 2035 (Public Utilities Code Sections 399.11, 399.30, and 454.33.)

Title 24–California Energy Efficiency Standards

The Energy Efficiency Standards for residential and non-residential buildings specified in Title 24, Part 6 of the California Code of Regulations were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated approximately every 3 years to allow for consideration and possible incorporation of new energy-efficiency technologies and methods. The current standards became effective on January 1, 2023.

Local

Fresno County Solar Facility Guidelines

The Fresno County Board of Supervisors modified the Fresno County Solar Facility Guidelines regarding commercial solar projects and processing within unincorporated areas of Fresno County on December 12, 2017 (Fresno County 2017). The Solar Facility Guidelines identify general guidelines and policies related to the land use process for evaluating solar facilities that accommodate new renewable energy technology while balancing the need to protect important farmland and minimize impacts on existing agricultural operations. The Solar Facility Guidelines outline the permitting process for solar development within the County.

Priority and Comprehensive Climate Action Plans

The Priority Climate Action Plan (PCAP) and Comprehensive Climate Action Plan (CCAP) is a two phased program administered by Fresno Council of Governments (COG) for Fresno County to develop a region-wide climate action plan. Through funding provided by the EPA's Climate Pollution Reduction Grants (CPRG) program, this Regional Climate Action Plan covers the 15 incorporated cities in Fresno County and the unincorporated Fresno County areas. The PCAP is the first component of the Regional Climate Action Plan and includes strategies to reduce energy consumption and promote renewable energy within the County. The PCAP was approved by the Fresno COG Policy Board in February 2024 (Fresno COG 2025).

Based on the guidance from the EPA, a list of draft priority measures that are "near term, implementation ready, cost feasible and of considerable magnitude of GHG [greenhouse gas] reduction" were drafted for the four identified priority sectors, which included five draft measures for the transportation sector, four for the agricultural sector, 10 for the building energy sector, and four for the waste sector. The priority regional measures targeted at building energy centers around energy efficiency retrofits and renewable energy generation (Fresno COG 2024). The CCAP is currently being drafted and is scheduled to be adopted in summer 2025.

3.7.2 Significance Criteria

A project would result in significant impacts on energy if it would:

a) Result in 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Similarly, PG&E and its contractors routinely implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the APMs and none of the Standard Practices focus on Energy.

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 the Rosemary Project's construction, operation and maintenance, and decommissioning and the PG&E Project's construction, operation and maintenance. 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 generation and storage facilities. GHG emissions estimated for Project-related combustion of diesel and gasoline were used to estimate the associated fuel volumes for the Project and an energy intensity factor for medium efficiency groundwater pumps were used to estimate the associated electricity usage for the Project. For the analysis related to Project GHG emissions estimates, see Section 3.9, *Greenhouse Gas Emissions*. To estimate the net use of electricity that would be associated with charging the battery energy storage system (ESS), the delta of electricity that would be used to charge the ESS, relative to the electricity that would be dispatched by the ESS was calculated.

3.7.3.3 Direct and Indirect Effects of the Project

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.

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.

Impact 3.7-1: The Project would result in consumption and use of energy. (*Less-than-Significant Impact*)

The analysis summarized in this section utilizes the assumptions identified in Appendix E1, *Air Quality and Greenhouse Gas Assessment for the Rosemary Solar and Storage System Complex Project*, and Appendix E2, *Air Quality and Greenhouse Gas Assessment for the Helm to Crescent Reconductoring Project*, to estimate the total energy requirements of the Project by fuel type and end use as recommended by CEQA Guidelines Appendix F. Because the assessments do not display the amount and fuel type for construction- and operation-related sources, additional calculations were conducted to estimate Project-related fuel use volumes that are summarized below and provided in Appendix E3, *Fuel Use Calculations*. Calculations of electricity consumption associated with the battery energy storage system (ESS) charging are presented in Appendix E4, *Battery ESS Charging Estimates*.

Rosemary Project Construction

Construction of the Rosemary Project would result in fuel consumption from the use of construction equipment, vendor and haul truck trips, on-site haul truck use, and vehicle trips generated from workers traveling to and from the Rosemary Project site, and the testing and calibration of installed equipment. The Applicant estimates that the construction of Rosemary 1, 2, and 3 and the Rosemary Shared Facilities

would require a maximum total of 18 months to complete. The volume of diesel and gasoline fuels that would be consumed during construction were calculated using the estimated CO_2 emissions for the Project and the amount of CO_2 emitted per gallon combusted (TCR 2024). The GHG analysis evaluates emissions assuming construction of Rosemary 1, 2, and 3 and the Rosemary Shared Facilities could occur concurrently or sequentially. Estimated CO_2 emissions are greater under the sequential buildout scenario, and thus the sequential scenario is used for the purposes of the energy analysis.

Construction of the Rosemary facilities is expected to consume a total of approximately 237,047 gallons of diesel fuel from construction equipment, vendor and haul truck trips, and on-site truck use and approximately 167,157 gallons of gasoline from construction worker vehicle trips. See **Table 3.7-3**, *Rosemary Project Energy Consumption during Construction*, for a breakdown of this information. These total fuel use volumes would amount to a maximum of 158,031 gallons per year of diesel and maximum of 111,438 gallons per year of gasoline, and would represent approximately 0.20 percent of diesel and 0.03 percent of gasoline sold in Fresno County in 2023 (CEC 2025b) (see Appendix E3). Overall, the fuel use during construction of the Rosemary Project would be minimal in comparison to overall fuel use in the County.

TABLE 3.7-3
ROSEMARY PROJECT ENERGY CONSUMPTION DURING CONSTRUCTION

Type (use)	Total Amount	Maximum Annual	Units
Diesel (construction equipment and trucks)	237,047	158,031	gallons
Gasoline (worker vehicles)	167,157	111,438	gallons
Electricity (water-related)	180	120	MWh

SOURCE: Appendix E3

Further, electricity would be required for water use during construction. Electricity during construction was estimated based on water demand for construction that would amount to a total of up to 325 acre-feet. As shown in Table 3.7-3, electricity associated with groundwater pumping for water used for construction would be approximately 180 MWh over the approximately 18-month construction period, which would amount to a maximum of 120 MWh per year[3] and would represent 0.002 percent of the electricity consumed in the County in 2023 (CEC 2025c) (see Appendix E3).

Construction activities and corresponding fuel energy consumption would be temporary and localized and the use of diesel fuel for heavy-duty equipment and gasoline for vehicles would be limited over the rest of the Rosemary Project's temporal lifespan during operation and maintenance (O&M) activities (see operation and maintenance discussion, below). In addition, there are no unusual Project characteristics that would require the use of construction methods or equipment that would be less energy efficient than those used at other similar solar project construction sites in other parts of the county.[4] Therefore, construction-related fuel consumption by the Rosemary Project would not result in inefficient, wasteful,

[3] Based on the energy intensity rate of 559 kilowatt-hours/acre-feet (0.0014 kWh/gallon) for medium efficiency groundwater pumping in San Joaquin and Tulare Regions (Next 10 2021, Table 27).

[4] Because energy consumption is directly proportional to generation of greenhouse gas emissions, the Project's construction-related greenhouse gas emissions were compared to the Fifth Standard Solar Project Complex (Fresno County 2020), the Little Bear Solar Project (Fresno County 2018), and the Tranquillity Solar Project in Fresno County (Fresno County 2014).

or unnecessary energy use compared with construction of other solar project sites in the region, and the impact would be **less than significant**.

Rosemary Project Operation and Maintenance

The Rosemary Project's anticipated annual electricity and fuel consumption during operation is summarized in **Table 3.7-4**, *Rosemary Project Annual Energy Consumption during Operation*. During O&M, electricity to serve the Rosemary Project would be provided via a distribution-level connection to the on-site station service transformer with connection lines installed above and/or below ground. The electricity would be used for the O&M building and other facilities such as lighting, heating, ventilating, and air conditioning equipment. For O&M activities, annual electricity consumption was calculated using demand factors for warehouse- and office-type buildings, as CalEEMod does not provide demand factors specifically for solar facilities. The Project's electricity consumption from these sources was estimated to be approximately 85 MWh per year. Additionally, the ESS facility would be charged from both the project and the grid. Because battery energy storage facilities are not completely efficient, it is anticipated that the 140 MW system would be charged beyond its rated capacity to overcome efficiency losses. Therefore, the ESS is estimated to result in the net use of up to 89,737 MWh per year (Appendix E3); however, to be economically viable in the marketplace, the ESS would be charged when the electrical grid would not be experiencing peak daily load conditions and there would be plenty of excess electricity available, and would dispatch electricity back to the grid during peak hour conditions when less electricity is available. Therefore, the battery ESS charging operations would not constitute wasteful, inefficient, or unnecessary use of energy. The Project's total electricity consumption was estimated to be approximately 89,825 MWh of electricity per year, which represents approximately 1.2 percent of Fresno County's annual electricity use in 2023.

TABLE 3.7-4
ROSEMARY PROJECT ANNUAL ENERGY CONSUMPTION DURING OPERATION

Type (use)	Amount	Units
Electricity		
O&M building, and other facilities	85	MWh/year
Grid Charging of Battery ESS	89,737	MWh/year
Water-related	3	MWh/year
Total Electricity	89,825	MWh/year
Diesel		
O&M activities (On-site trucks and emergency generator testing) [a]	12,243	gallons/year
Gasoline		
O&M employee vehicles, mowers, and visitors	18,466	gallons/year

NOTE:
a. Two backup generators would be available during Project operation.
SOURCES: Appendices E3 and E4

Using the solar facility generation capacity of 140 MW alternating current, the Rosemary Project is anticipated to generate approximately 428,000 MWh per year (Appendix E3). Thus, the amount of electricity required during Project operation would be substantially offset by the generation of renewable

electricity from the Rosemary Project, and the Project's electricity demand would not constitute a wasteful, inefficient, or unnecessary use of energy.

O&M activities would include equipment repairs, panel washing, augmentation of batteries, electrical and component repairs, and vegetation control, which would require the use of light-duty trucks and other light duty equipment. Large or heavy equipment may be brought to the facility infrequently and only for equipment repair, replacement, or vegetation control, in which case the associated diesel fuel consumption would be minimal. Thus, as shown in Table 3.7-4, although permanent commitments of small quantities of nonrenewable resources would occur during operation of the Rosemary Project, the amount of 9,403 gallons per year of diesel fuel consumed during Project operation would be relatively minimal and would not constitute a wasteful, inefficient, or unnecessary use of energy. Diesel fuel consumption was calculated using the estimated CO_2 emissions for the Project and the amount of CO_2 emitted per gallon combusted (TCR 2024).

Gasoline would be required for Rosemary Project workers commuting to and from the Project site. Using the total CalEEMod mobile emissions rates (Appendix E3) during operations yields an estimate of 17,213 gallons of gasoline required annually during Project operation. Project fuel use during O&M would represent approximately 0.01 percent of diesel and less than 0.01 percent of gasoline sold in Fresno County in 2023 (CEC 2025b). This diesel and gasoline use during Rosemary Project operation would be comparatively minor and would not constitute a wasteful, inefficient, or unnecessary use of energy. Thus, this impact would be **less than significant**.

Rosemary Project Decommissioning

The Rosemary Project would operate for a use term of 40 years, after which the infrastructure would be decommissioned, and the site would be restored in accordance with the County-approved reclamation plan. A draft of this reclamation plan is included as **Appendix B1**. This phase would take approximately 12 months, and the workforce and equipment needed for decommissioning would be similar to or less than that required for construction. There is uncertainty in predicting improvements to equipment efficiencies and emissions rates 40 years into the future; however, the *Air Quality and Greenhouse Gas Emissions Technical Report* (Appendix E1) assumed that decommissioning would use similar but less equipment than modeled for construction, and for a shorter duration (12 months rather than 18 months).

Similar to construction, decommissioning of the Rosemary Project would result in fuel consumption from the use of tools and equipment, truck trips to remove materials from the site, and vehicle trips generated from workers traveling to and from the site. The Rosemary Project's energy and fuel consumption during decommissioning is summarized in **Table 3.7-5**, *Rosemary Project Energy Consumption During Decommissioning,* and was calculated using the estimated CO_2 emissions for the Project and the amount of CO_2 emitted per gallon combusted (TCR 2024). As indicated, Rosemary Project decommissioning is expected to consume a total of approximately 63,989 gallons of diesel fuel from equipment use and truck trips and approximately 13,371 gallons of gasoline from worker vehicle trips. Project fuel use during decommissioning would represent approximately 0.08 percent of diesel and less than 0.01 percent of gasoline sold in Fresno County in 2023 (CEC 2025b). Decommissioning-related energy use by the Rosemary Project would not result in inefficient, wasteful, or unnecessary energy use compared with construction of other solar project sites in the region, and the impact would be **less than significant**.

TABLE 3.7-5
ROSEMARY PROJECT ENERGY CONSUMPTION DURING DECOMMISSIONING

Type (use)	Amount	Units
Diesel (construction equipment and trucks)	63,989	gallons
Gasoline (worker vehicles)	13,371	gallons

SOURCE: Appendix E3 and E4

PG&E Project Construction

Construction-related reconductoring activities for the PG&E Project would result in fuel consumption from equipment needed for pull sites and conductor replacement; and tubular steel pole replacement. This project would entail typical construction equipment such as heavy-duty trucks, cranes, and earthwork equipment.

The PG&E Project's energy and fuel consumption during construction is summarized in **Table 3.7-6**, *PG&E Project Energy Consumption During Construction*. As indicated, PG&E Project construction is expected to consume a total of approximately 18,169 gallons of diesel fuel from equipment use and truck trips, which would amount to a maximum of 12,113 gallons per year, and a total of approximately 1,197 gallons of gasoline from worker vehicle trips, which would amount to a maximum of 798 gallons per year. Project fuel use during construction would represent approximately 0.01 percent of diesel and well under 0.01 percent of gasoline sold in Fresno County in 2023 (CEC 2025b). Construction-related fuel consumption by the Project would not result in inefficient, wasteful, or unnecessary energy use compared with construction of other solar project sites in the region, and the impact would be **less than significant**.

TABLE 3.7-6
PG&E PROJECT ENERGY CONSUMPTION DURING CONSTRUCTION

Type (use)	Total Amount	Maximum Annual	Units
Diesel (construction equipment and trucks)	18,169	12,113	gallons
Gasoline (worker vehicles)	1,197	798	gallons
Electricity (water-related)	17	11	MWh

SOURCE: Appendix E3

PG&E Project Operation and Maintenance

Operation and maintenance activities and related fuel use for the PG&E Project would be substantially the same as existing (baseline) conditions. Such activities include monitoring the system remotely, responding and repairing the line if outages are detected, and conducting routine inspections of the line and poles and substation facilities at regular intervals. O&M activities associated with the reconductored electrical line would not change from PG&E's current practices. No additional worker trips are anticipated as part of the PG&E Project; thus gasoline and diesel use would not increase under O&M of the Project, and there would be **no impact**.

The Combined Project

The Project would require overlapping energy consumption during the 18-month construction period for the Project components. These activities would require the use of gasoline and diesel fuels and water-related electricity consumption as described above. **Table 3.7-7**, *Combined Project Construction Energy Consumption*, summarizes the combined fuel uses for the Rosemary Project and the PG&E Project. The Project would require a total of approximately 225,216 gallons of diesel fuel from equipment use and truck trips, which would amount to a maximum of 170,144 gallons per year, and a total of approximately 168,354 gallons of gasoline from worker vehicle trips, which would amount to a maximum of 112,236 gallons per year. Total Project fuel use would represent approximately 0.21 percent of diesel and less than 0.01 percent of gasoline sold in Fresno County in 2023 (CEC 2025b).

TABLE 3.7-7
COMBINED PROJECT CONSTRUCTION ENERGY CONSUMPTION

Type (use)	Total Amount	Maximum Annual	Units
Construction			
Diesel (construction equipment and trucks)	255,216	170,144	gallons
Gasoline (worker vehicles)	168,354	112,236	gallons
Electricity (water-related)	154	103	MWh

SOURCE: Appendix E3

This combined fuel would not represent a substantial demand on energy resources. Thus, the combined equipment used for the Project's construction would not result in inefficient, wasteful, or unnecessary energy use, and the impact would be less than significant.

In addition to the reasoning provided for the Rosemary Project and the PG&E Project above, the Project would comply with state and local regulations, such as those included in Title 13 of the California Code of Regulations Sections 2485 and 2449, which 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 help ensure that fuel energy consumed during the construction phase would not be wasted through unnecessary idling.

Although the Project would require energy for construction, O&M, and for decommissioning of the Rosemary Project, the electricity production of the Project would far outweigh the Project's energy demand, and the overall energy impact of the Project would be beneficial. The battery ESS component of the Project would also improve the State's grid reliability by providing access to additional energy during peak energy demand. Therefore, energy use would not be wasteful, inefficient, or unnecessary during the Project and the impact would be **less than significant**.

Mitigation: None required.

Criterion b) Whether the Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project (including the Rosemary Project and the PG&E Project) would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (*No Impact*)

The Project would involve the construction, O&M, and decommissioning of a solar and battery storage facility that would produce a new renewable source of energy in Fresno County. It also would involve the reconductoring of transmission lines to enhance the reliability of the regional grid. Although the Project would provide a new source of renewable energy, the specific existing sources of energy that could be replaced by this Project are unknown. However, it is known that the Project would supply solar energy to PG&E's electrical power grid that would be available to reduce the potential demand of nonrenewable generated power.

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 target a reduction in fuel consumption and an increase in energy conservation. Construction, operation and maintenance, and decommissioning of the Project 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 help 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.

In addition, since solar energy fluctuates and power from solar facilities that is added to the grid is produced at different rates during certain periods of the day and year, increasing energy storage is a key strategy for ensuring a reliable grid (CAISO 2016). The Project's proposed ESS would allow electricity to be reliably fed to the grid and would help maintain grid reliability. The proposed ESS also would assist California utilities in meeting their obligations under state energy storage targets and the CPUC's energy storage program. Therefore, the Project would directly support SB 100 and California's RPS goal of increasing the percentage of electricity procured from renewable sources to 100 percent by 2045.

The O&M building on the Rosemary Project site would be subject to the Building Energy Efficiency Standards required by the regulations (24 Cal. Code Regs. Part 6) that implement the California Energy Code. These standards are intended to save energy, increase electricity supply reliability, and avoid the need to construct new fossil-fueled power plants. Pursuant to the California Building Standards Code and the Energy Efficiency Standards, the County would review the design components of the Project's energy conservation measures when the Project's building plans are submitted. These measures could include insulation, the use of energy-efficient heating, solar-reflective roofing materials, energy-efficient indoor and outdoor lighting systems, and other measures.

Because the Project (including the Rosemary Project and the PG&E Project) would provide a new source of renewable energy supporting SB 100 and the state's energy goals, would enhance the reliability of the regional grid, and would comply with fuel and energy efficiency regulations, the Project would not conflict

with or obstruct a state or local plan for renewable energy or energy efficiency. There would be **no impact**.

3.7.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.7-8**, *Summary of Project Impacts on Energy*, summarizes the impacts of the Project as a whole on energy.

TABLE 3.7-8
SUMMARY OF PROJECT IMPACTS ON ENERGY

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

3.7.4 Cumulative Effects

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.

As analyzed in Section 3.7.3.3, *Direct and Indirect Effects of the Project*, the Project (including the Rosemary Project and the PG&E Project) would cause **no impact** relating to the use of natural gas. Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any potential cumulative effect on natural gas supplies. (*No Impact*)

Impact 3.7-1c: The Project would not cause or contribute to any significant cumulative effect relating to consumption and use of energy. (*Less-than-Significant Impact*)

The geographic context for potential cumulative effects 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 (for the Rosemary Project) also during decommissioning; therefore, it could contribute to potential cumulative effects during any of these phases. However, the Project would yield a net energy generation rather than consumption, thus the impact on energy would be beneficial/positive. Thus, the Rosemary Project's and the PG&E Project's impact on energy use would not be cumulatively considerable and the cumulative effect would be **less than significant**.

Mitigation: None required.

Criterion b) Whether the Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

As analyzed in Section 3.7.3.3, *Direct and Indirect Effects of the Project*, the Project would cause **no impact** due to conflict with or obstruction of a state or local plan for renewable energy or energy efficiency. Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any potential cumulative effect relating to this criterion b). (*No Impact*)

3.7.5 References

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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, landslide potential and related considerations. The 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 did not receive any scoping comments pertaining to Geology, Soils, or Paleontological Resources. See **Appendix A**, *Scoping Report*.

This analysis is based in part on site-specific reports prepared by the Applicant for the Rosemary Project, including a Geology and Soils Technical Report (**Appendix H**), a Phase I environmental site assessment (**Appendix I**), and a Water Supply Assessment (**Appendix J**). The Applicant also prepared a Paleontological Sensitivity Assessment (ICF 2024); however, consistent with state law and County practice, the paleontological resources report is being kept confidential.[1] 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.

3.8.1 Setting

3.8.1.1 Study Area

Except for seismic impacts, the study area for this analysis of potential impacts related to geology, soils, and paleontological resources is limited to the approximately 1,172-acre Rosemary Project site; the approximately 5-linear-mile-long, approximately 50-foot-wide corridor where the PG&E Project would occur, as well as Helm substation and Crescent switching station; and the areas immediate adjacent to these areas. This is because impacts on geology, soils, and paleontological resources are generally site-specific and depend on the nature of the existing geologic and soil units.

For seismic impacts, the study area extends to the three fault zones known be closest to the Project site: the Ortigalita fault zone located approximately 40 miles northwest, the San Andreas fault located approximately 50 miles west, and the Nunez fault located approximately 25 miles southwest of the Project site.

3.8.1.2 Environmental Setting

Regional Geology

The Project site is approximately 25 miles southwest of Fresno, 6 miles east of Cantua Creek, and 5 miles south of San Joaquin, as indicated in Figure 2-1, *Project Location*, in Chapter 2, *Project Description*. The Project site is within the western margin of the San Joaquin Valley and in the Great Valley geomorphic province (referred to as the *Central Valley*). The Central Valley is a nearly level alluvial plain situated between the Klamath Mountains to the north, Tehachapi Mountain Range to the south, Sierra Nevada Mountain Range to the east, and the Coast Range to the west. The San Joaquin Valley floor consists of a

[1] The California Public Records Act generally requires public agencies such as Fresno County to make records available for public inspection; however, it also includes exemptions that protect certain types of information, including those related to paleontological resources.

thick sequence of sedimentary deposits which range in age from Jurassic through Holocene.[2] The basement rocks in the western portion are Franciscan metasediments and/or mélange,[3] overlain by Tertiary[4] strata reflecting marine, estuarine, and terrestrial conditions. Quaternary[5] fluvial and alluvial strata are also present which indicate uplift and erosion of the Coast Ranges (Appendix H).

Geologic Units

Except for the western portion, nearly all the Project site and surrounding area is immediately underlain by Quaternary basin deposits (Qb). These deposits are Holocene to Late Pleistocene in age and made up of interbedded lake, marsh, flood, and stream-channel sediments, ranging in thickness from 5 to 35 feet and are generally fine-grained. The western edge of the Rosemary Project site is immediately underlain by Quaternary fan deposits (Qf). The sediment in this portion is thickest and coarsest at the top of fan and finer towards the valley floor (Appendix H).

Geologic and Seismic Hazards

The geologic and seismic information summarized below is from the geology and soils technical report provided in Appendix H unless otherwise cited.

Earthquake Faults and Seismicity

No known faults exist within the boundaries of the Project site. Several active fault systems are present in the region outside of the Project site, as shown on **Figure 3.8-1**, *Regional Faults*. The closest active fault is the Nunez fault, found approximately 25 miles south of the Project site. In addition, the San Andreas fault is located approximately 50 miles west of the Project site and the Ortigalita fault is approximately 40 miles northwest of the Project site; each runs northwest to southeast along the east side of the Coast Mountain Ranges. These three regional faults are capable of producing moderately low ground shaking.

Fault Rupture

The Project site is not within an established earthquake fault zone as delineated on an Earthquake Fault Zone Map, required by the Alquist-Priolo Earthquake Fault Zoning Act (see Section 3.1.8.3, *Regulatory Setting*, for more information). Faults are designated *earthquake fault zone* if they display evidence of surface rupture within the last 11,700 years (CGS 2018). The nearest earthquake fault zones are the Ortigalita, Nunez, and San Andreas fault zones, as shown in Figure 3.8-1.

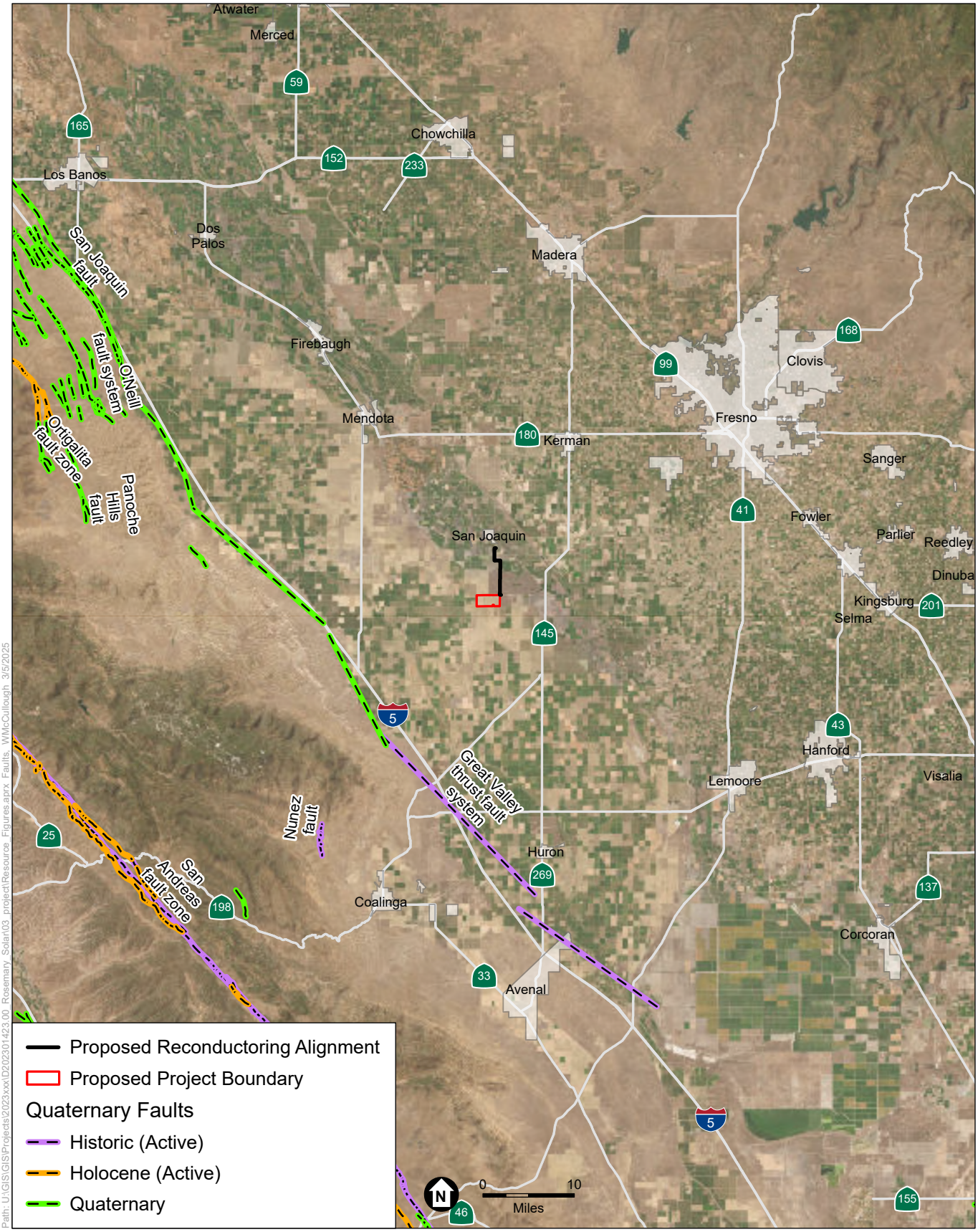
The California Earthquake Hazards Zone Application (EQ Zapp) is an interactive map available on the CGS website. The EQ Zapp allows users to view all available earthquake hazard zone data, including earthquake fault, liquefaction, and earthquake-induced landslide zones. Although there has been historic movement within the Great Valley thrust fault system, such as the 1983 Coalinga earthquake (USGS 2017), it has not been mapped as an earthquake fault zone according to EQ Zapp (CGS 2024a, 2024b).

[2] Jurassic time is from 145 to 201 million years ago; Holocene time is from 11,700 years ago to the present.

[3] In geology, a mélange is a large-scale, mappable body of rock characterized by a lack of continuous bedding and the inclusion of fragments of rock of all sizes, contained in a fine-grained deformed matrix. The mélange typically consists of a jumble of large blocks of varied lithologies.

[4] Tertiary time is from 2.6 million to 66 million years ago.

[5] Quaternary time is from 2.6 million years ago to the present.



Path: U:\GIS\GIS\Projects\2023xxx\D2023014 23.00 Rosemary Solar03_project\Resource Figures.aprx Faults WMcCullough 3/5/2025

Source: ESA, 2024; CGS, 2021

Rosemary Solar and Energy Storage System Complex

Figure 3.8-1
Regional Faults

ESA

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 the epicenter, duration and intensity of the shaking, underlying soil and rock types, and the integrity of structures. The Ortigalita, Nunez, and San Andreas faults are capable of producing moderately low ground shaking at the Project site.

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 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 or other infrastructure that can lead to leaks or pipe failure.

The Project site is not within or near any known liquefaction zones (CGS 2024b). Holocene sediments, such as the Quaternary basin deposits found in the study area, are most susceptible to liquefaction. However, the chance of liquefaction is unlikely considering a low potential for strong ground shaking, and the depth to groundwater is greater than 50 feet (Appendix H).

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.

There is a low risk of landsliding within the study area due to the flat topography. In addition, the USGS landslide inventory map does not indicate the presence of landslides in the study area. The nearest landside zone is located approximately 3 miles north of the Project site in the Fresno Slough. However, this ranks low on the susceptibility scale (USGS 2025).

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 1996). 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 1996).

The study area has experienced limited subsidence as a result of groundwater overdraft. Although this type of subsidence is well documented in the San Joaquin Valley, in the study area the subsidence ranges from 0 to 10 feet. In contrast, subsidence greater than 20 feet has occurred southwest of the study area in the central region of the valley.

Soil Types

Soils on the Project are predominately Tranquillity-Tranquillity, wet, complex, saline-sodic and the Tranquillity clay, saline-sodic. See **Table 3.8-1**, *Soil Types in the Project Site*, for soils construction classifications related to linear extensibility, corrosion of concrete and steel, and septic tank absorption. Soils in the study area do not have limitations related to erosion hazard. The National Resource Conservation Service Web Soil Survey data reflect this finding as well (National Resource Conservation Service 2025).

TABLE 3.8-1
SOIL TYPES IN THE PROJECT SITE

	Map Unit Symbol 285	Map Unit Symbol 286
Map Unit Name	Tranquility-Tranquility, wet, complex, saline-sodic, 0 to 1% slopes	Tranquility clay, saline-sodic, 0 to 1% slopes
Erosion Hazard	Slight	Slight
K Factor, Whole Soil	Moderate	Moderate
Linear Extensibility	Very High	Very High
Corrosion of Concrete	Moderate	High
Corrosion of Steel	High	High
Septic Tank Absorption Fields	Very limited	Very limited
Septic Rating Reasons	Slow water movement, depth to saturated zone, flooding	Slow water movement, depth to saturated zone, flooding

SOURCE: Appendix H, National Resource Conservation Service 2025

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. Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater.[6] Expansive soils are typically very fine-grained and have a high to very high percentage of clay. The Natural Resources Conservation Service 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

[6] *Perched groundwater* is a local saturated zone above the water table that typically exists above an impervious layer (such as clay) of limited extent.

structures (National Resource Conservation Service 2024). As noted on Table 3.8-1, soils on the Project site have a very high susceptibility to expansion.

Paleontological Resources

Paleontological resources refer to 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. Unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both aerial and stratigraphic) of a unit or formation.

The Paleontological Sensitivity Assessment prepared for the Rosemary Project (ICF 2024) identifies and summarizes paleontological resources that may occur in and around the Project site. As noted above, the County is protecting this assessment from public disclosure because it contains confidential details about sensitive resources. According to this assessment, "the basin deposits underlying most to the Project site likely have a high paleontological sensitivity. Although the uppermost portion of the deposits is Holocene in age, the lower portion of the deposits is of Pleistocene age and therefore has a high paleontological sensitivity. California's Pleistocene sedimentary units of terrestrial origin record deposition in continental settings and are typically considered highly sensitive for paleontological resources because of the large number of recorded fossil finds in such units throughout the state. In addition, the University of California Museum of Paleontology database has more than 150 records of vertebrate fossils from a site excavated in basins deposits near the town of Tranquillity, approximately 10 miles north of the Project site. These fossils include birds, reptiles, rabbit, canids (i.e., members of the dog family), badger, and rodents and were likely brought to the site by early hunters. These fossils were exposed as a result of erosion, which appears to have been relatively shallow. Therefore, the lower (i.e., the older) portion of the unit is considered to have a high sensitivity for paleontological resources. The depth to the Pleistocene at the Project site is unknown but a conservative estimate would be 5 feet below ground surface, based on the overall thickness of the unit and the site's location on the western edge of the valley."

As discussed in Chapter 2, *Project Description*, underground portions of the collector system could be buried up to 5 feet below ground surface; the gen-tie line and redundant communication line, if trenched, would not exceed depths of 15 feet below ground; the tracking system for the solar modules would be anchored by steel support posts driven up to 15 feet into the ground; and the concrete foundation for a microwave tower, if needed, would have a maximum depth of 20 feet below ground surface. Accordingly, the maximum depth of excavation for Rosemary Project infrastructure is expected to be 20 feet.

3.8.1.3 Regulatory Setting

Federal

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) leads the federal government's efforts to reduce the fatalities, injuries, and property losses caused by earthquakes. Congress established NEHRP in 1977, directing that four federal agencies coordinate their complementary activities to implement and maintain the program: the Federal Emergency Management Agency, the National Institute of Standards and Technology, the National Science Foundation, and U.S. Geological Survey. The reauthorization of the NEHRP in 2018 emphasized advancing earthquake early warning systems and promoting community resilience to earthquakes. Implementation of the NEHRP's requirements is regulated, monitored, and enforced at the state and local level. The NEHRP is relevant to the Project because the Project is located in an area with the potential for ground shaking.

Clean Water Act

The federal Clean Water Act and subsequent amendments, under the enforcement authority of the U.S. Environmental Protection Agency, was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The purpose of the Clean Water Act is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies. The Clean Water Act gave the U.S. Environmental Protection Agency the authority to implement pollution control programs such as setting wastewater standards for industry. In California, implementation and enforcement of the National Pollutant Discharge Elimination System (NPDES) program is conducted through the California State Water Resources Control Board and the nine regional water quality control boards (RWQCBs).

The Act also sets water quality standards for surface waters and established the NPDES program to protect water quality through various sections of the Clean Water Act, including Sections 401–404 and 303(d), that are implemented and regulated by the State Water Resources Control Board and the nine RWQCBs. Section 402 of the Clean Water Act would apply to the Project because construction at the Project site would be required to control discharges of sediment and other pollutants from point sources, as discussed further below.

Code of Federal Regulations Title 43

Under Title 43 of the Code of Federal Regulations (CFR), Sections 8365.1–8365.5, the collection of scientific and paleontological resources, including vertebrate fossils, on federal land is prohibited. The collection of a "reasonable amount" of common invertebrate or plant fossils for noncommercial purposes is permissible (43 CFR Sections 8365.1–8365.5).

Paleontological Resources Preservation Act of 2009

The Paleontological Resources Preservation Act is part of the Omnibus Public Land Management Act of 2009 (Public Law 111-011, Subtitle D). This law directs the Secretary of the Interior or Secretary of Agriculture to manage and protect paleontological resources on federal land and to develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. It prohibits the removal of paleontological resources from federal land without a permit issued under this law, establishes penalties for violations, and creates a program to increase public awareness about these

resources. Paleontological resources collected under a permit must remain United States property and must be preserved for the public in an approved repository and available for scientific research and public education. The Paleontological Resources Preservation Act also requires that the nature and location of paleontological resources on public lands remain confidential as a means of protecting the resources from theft and vandalism.

Section 6301 of the Paleontological Resources Preservation Act and the Departmental Proposed Rule (43 CFR Part 49) define a *paleontological resource* as:

> *Any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth, except that the term does not include— (A) any materials associated with an archaeological resource… (B) any cultural item… (3) Resources determined in writing by the authorized officer to lack paleontological interest or not provide information about the history of life on earth, based on scientific and other management considerations.*

Consistent with the definition of a paleontological resource under the Paleontological Resources Preservation Act, those paleontological resources that lack scientific interest (e.g., resources that are ubiquitous or do not provide information about the history of life on Earth) are considered scientifically non-significant fossils.

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 to 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.

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 (California Code of Regulations Title 24, Section 1803 [24 Cal. Code Regs. Section 1803]); excavation, grading, and fills (24 Cal. Code Regs. Section 1804); load-bearing of soils (24 Cal. Code Regs. Section 1806); and foundations (24 Cal. Code Regs. Section 1808), shallow foundations (24 Cal. Code Regs. Section 1809), and deep foundations (24 Cal. Code Regs. 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.
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 Soils Technical Report prepared on the Applicant's behalf is included as Appendix H.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690−2699.6) directs the California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of this program is to minimize the loss of life and property through the identification, evaluation, and mitigation of seismic hazards. The program has generated seismic hazard zone maps that identify zones of required investigation. Counties and cities are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit processes. The Project is in an area that has not yet been mapped as part of the Seismic Hazards Mapping Act.

National Pollutant Discharge Elimination System Construction General Permit

Construction associated with projects that would disturb more than 1 acre of land surface affecting the quality of stormwater discharges into waters of the United States are subject to the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2022-0057-DWQ, NPDES No. CAS000002), commonly referred to as the Construction General Permit. 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 construction sites to be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and on 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 has the potential to 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 stormwater pollution prevention plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP must 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 for sediment.

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 any BMPs fail; and a sediment monitoring plan if the site discharges directly to a water body listed on the Clean Water Act Section 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 fences 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 and 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 after construction).

At the Project site, the Construction General Permit would be implemented and enforced by the Central Valley RWQCB, which administers the stormwater permitting program. Dischargers must electronically submit a notice of intent and permit registration documents to obtain coverage under the Construction General Permit. Dischargers are to notify the Central Valley RWQCB of violations or incidents of non-compliance and 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

Fresno County General Plan

The Fresno County General Plan is a comprehensive long-range general plan for the physical development of the county (Fresno County 2024). Goals and policies related to geology and soils are listed below.

Goal HS-D: To minimize the loss of life, injury, and property damage due to seismic and geologic hazards.

Policy HS-D.1: Geologic Investigations and Knowledge. The County shall continue to support scientific geologic investigations that refine, enlarge, and improve the body of knowledge on active fault zones, unstable areas, severe ground shaking, avalanche potential, and other hazardous geologic conditions in Fresno County.

Policy HS-D.2: Geologic Hazard Mitigation Planning. 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: Soils and Geologic-Seismic Analysis. 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, lurch cracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche).

Policy HS-D.4: Soils and Geologic-Seismic Structure Design. 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 California 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: Alquist-Priolo Earthquake Fault Act. 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.6: Seismic Standards for Critical Facilities. 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.7: Soils Report. 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.8: Minimize Soil Erosion. 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.9: Drainage Plans. The County shall require the preparation of drainage plans for development or public infrastructure projects in hillside areas to direct runoff and drainage away from unstable slopes.

Policy HS-D.10: Maximum Slope Requirements. The County shall not approve a County permit for new development, including public infrastructure projects where slopes are over thirty (30) percent unless it can be demonstrated by a California-registered civil engineer or engineering geologist that hazards to public safety will be reduced to acceptable levels.

Policy HS-D.11: Landslide Hazard Areas. In known or potential landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems, undercutting the bases of slopes, removal of vegetative cover, and steepening of slopes.

Policy HS-D.12: Avalanche Hazard Areas. The County shall not approve a County permit for new development, including public infrastructure projects, in known or potential avalanche hazard areas unless it can be demonstrated by a California-registered engineer or engineering geologist that the structures will be safe under anticipated snow loads and avalanche conditions.

Policy HS-D.13: Geologic Hazard Areas Designations. Whenever zoning is employed to restrict the use of land subject to severe geologic hazards (e.g., landslides), the County shall designate parcels so restricted for open space uses.

Goal OS-J: To identify, protect, and enhance Fresno County's important historical, archeological, paleontological, geological, and cultural sites and their contributing environment, and promote and encourage preservation, restoration, and rehabilitation of Fresno County's historically significant resources in order to promote historical awareness, community identify, and to recognize the county's valued assets that have contributed to past county events, trends, styles of architecture, and economy.

Policy OS-J.4: Cultural Resources Protection and Mitigation. The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, tribal, paleontological, and cultural sites and resources. For projects requiring ground disturbance and located within a high or moderate cultural sensitivity areas, a cultural resources technical report may be warranted, including accurate archival research and site surveys conducted by qualified cultural resources practitioners. The need to prepare such studies shall be determined based on the tribal consultation process and initial outreach to local or state information centers.

Policy OS-J.12: Geologic Resource Preservation. 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.

Policy OS-J.16: Permanent Geologic Resource Protection. The County shall encourage State and Federal agencies to purchase significant geologic resources for permanent protection.

Fresno County Solar Facility Guidelines

The Fresno County Solar Facility Guidelines were adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017 (Fresno County 2017). The Guidelines contain the following requirement relevant to geology and soils:

4. Identify (with supporting data) the current soil type and mapping units of the parcel pursuant to the standards of the California State Department of Conservation and the Natural Resources Conservation Service [.]

3.8.2 Significance Criteria

A project would result in significant impacts on 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 soil[7] 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;
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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.2, *Erosion and Sediment Control Measures* could reduce the Rosemary Project's potential impacts on geology, soils, and paleontological resources.

Similarly, PG&E and its contractors routinely implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7,

[7] The CBC no longer includes a Table 18-1-B, which is still cited in the Appendix G criterion. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

PG&E–Proposed Standard Practices and Measures. Of them, the actions described in Section 2.6.7.7, *Other Construction Measures and Practices,* specifically those pertaining to erosion control*,* could reduce potential PG&E Project impacts on geology, soils, and paleontological resources.

3.8.3.2 Methodology

This environmental analysis of the potential impacts related to geology and soils is based on a review of the results of the review of literature and database research (geologic, seismic, and soils reports and maps), and the Fresno County General Plan.

The Project would be regulated by the various laws, regulations, and policies summarized in Section 3.18.1.3, *Regulatory Setting*. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. As a result, the analysis assumes that the structural elements of the Project would undergo appropriate design-level geotechnical evaluations prior to final design and constructed subject to oversight by the Project engineers and building officials. The geotechnical engineer, as a registered professional with the State of California, would be required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care for the particular region in California, which, in the case of the Project, is Fresno County.[8] The California Professional Engineers Act (Building and Professions Code Sections 6700–6799), and the Code of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. The local Building Officials are typically with the local jurisdiction and are responsible for inspections and ensuring CBC compliance prior to approval of the building permit.

3.8.3.3 Direct and Indirect Effects of the Project

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 issued by the State Geologist for the area or based on other substantial evidence of a known fault.

The Project (including both the Rosemary Project and the PG&E 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 Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (*No Impact*)

The Project would not directly or indirectly cause any potential substantial adverse effects involving the rupture of a known earthquake fault. As described above in Section 3.8.1, *Setting*, the Project site is not located within any mapped earthquake fault zones according to the California Geological Survey and no active faults, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, exist within the Project site

[8] A geotechnical engineer (GE) specializes in structural behavior of soil and rocks. GEs conduct soil investigations, determine soil and rock characteristics, provide input to structural engineers, and provide recommendations to address problematic soils.

boundary. Although the study area could be affected by earthquakes or seismic ground shaking, the lack of recent data showing fault rupture indicates that a rupture of active faults within the Project site is unlikely. The nearest Zone of Required Investigation is approximately 25 miles south of the Project and is related to the Nunez fault (Appendix H).

Further, the Project would include two structures- an office and a warehouse that would be used for storage and maintenance work. These two operation and maintenance (O&M) related buildings would not be habitable structures and would only be used on a temporary basis. Thus, the Project would not expose people or structures to potential substantial adverse effects associated with rupture of a known earthquake fault. There would be **no impact** related to surface fault rupture during construction, operation and maintenance, or decommissioning of the Rosemary Project and **no impact** related to surface fault rupture during reconductoring or operation and maintenance of the PG&E Project.

Criteria a.ii and a.iii) 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 or seismic-related ground failure, including liquefaction.

Impact 3.8-1: 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 or seismic-related ground failure, including liquefaction. (*Less-than-Significant Impact*)

The Project site (including both the Rosemary Project site and the PG&E Project site) is in a region that could be subject to moderately low ground shaking during an earthquake given proximity to three active regional faults in the area: the Ortigalita, San Andreas, and the Nunez fault zones. As depicted in **Figure 3.8-1**, the closest active fault as mapped by the EFZ is approximately 25 miles south of the Project site. Given the potential for moderate seismic ground shaking to occur that affects the Project site, damage to Project structures could occur that result in injury to site workers. However, this would be unlikely given the Project would comply with applicable state and local building codes and would include a geotechnical report to determine the engineering needs of Project. Further, no Project features are expected to contribute to or exacerbate strong seismic shaking conditions. This would hold true for construction, O&M, and decommissioning of the Rosemary Project (Appendix H) as well as for reconductoring and O&M for the PG&E Project.

Specifically regarding the Rosemary Project, an underground DC collector system, PV facility, battery ESS, AC collector system,[9] substation facilities, overhead/and or underground gen-tie line, O&M office and warehouse, water retention basins, a parking area, and access roads would be installed during construction. Specifically regarding the PG&E Project, replacement poles (if needed) would be installed within the existing, approximately 5-linear mile long segment of the Helm–Crescent 70 kV electric transmission line corridor where the PG&E Project is proposed, and minor upgrades to Helm substation and Crescent switching station would occur within the boundaries of those facilities. In areas subject to strong ground shaking with liquefiable soils and shallow groundwater, the construction of this infrastructure unless properly designed, could contribute to the instability of cut slopes and open trenches which could unstable and collapse during an earthquake. If this occurred, structures could fail and cause

[9] The AC collector could be installed either underground or aboveground.

harm to people or property in the immediate area. However, the susceptibility of the Project site to liquefaction is low, based on the moderately low potential for strong ground shaking and the depth to groundwater. While the groundwater depth of the Project site is unknown, groundwater wells in the area range from 520 feet to 1,245 feet deep (Appendix J). The Project would be designed and constructed to comply with all applicable state and local building codes and standards. Compliance with the recommendations set forth in the geotechnical report and building codes would make potentially adverse effects associated with seismic-related ground failure at the Project site unlikely. Additionally, no Project components are expected to contribute to or exacerbate seismic conditions (e.g., likelihood of strong seismic shaking). Thus, the impact would be **less than significant**.

Neither the Rosemary Project nor the PG&E Project would require the injection of water or liquid waste or the extraction of crude oil or natural gas. Therefore, the Project would not include activities that could trigger movement along a fault.

The Project site is not within an established EFZ and does not include activities that would contribute to strong seismic ground shaking, ground failure, liquefaction or movement along a fault. Thus, impacts related to the risk of loss, injury, or death associated with these factors for the Rosemary Project and the PG&E Project would be **less than significant**.

Mitigation: None required.

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.

The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. (*No Impact*)

Construction and reconductoring activities in areas with potential to experience landslides could expose people or structures to potential substantial adverse effects. However, the Project site has flat topography, and no landslides are documented at the site or in the vicinity (Appendix H). In addition, the Project would be designed and constructed to comply with all applicable state and local building codes. No Project components are expected to contribute to or exacerbate the potential for landslides. Therefore, the Rosemary Project and the PG&E Project would cause **no impact** from directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

Criterion b) Whether the Project would result in substantial soil erosion or loss of topsoil.

The Project would not result in substantial soil erosion or loss of topsoil during O&M for the Rosemary Project or following the completion of reconductoring activities implemented for the PG&E Project. (*No Impact*)

As discussed in Section 3.8.1.2, *Environmental Setting*, the Project would be located in an area with soils that are moderately susceptible to erosion, which could result in substantial soil erosion or loss of topsoil during construction and decommissioning. **No impact** would occur under the O&M phase of the Rosemary

Project related to erosion or loss of topsoil since no earthwork activities would occur during this phase. The same is true for the PG&E Project once reconductoring activities are complete.

Impact 3.8-2: The Rosemary Project would result in soil erosion or loss of topsoil during construction and decommissioning. (*Less-than-Significant Impact*)

Construction of the Rosemary Project would include ground-disturbing activities that could increase the risk of erosion or sediment transport, if not managed appropriately. One phase of construction would require civil work, including site preparation and grading/other earthwork. Such activities could result in soil erosion during excavation, grading, trenching, and soil stockpiling. As described in Section 2.5.6, *Rosemary Project Construction*, earthmoving activities would be limited to the construction of access roads, O&M structures, inverters, the ESS, gen-tie line, and any stormwater protection or storage facilities. In addition, final grading may include revegetation with low-lying grass or application of earth-binding materials to disturbed areas.

Decommissioning activities would contribute to the same soil disturbance associated with construction. During decommissioning, Rosemary 1, 2, 3, and Rosemary Shared Facilities components would be dismantled and removed and the site would be restored to a condition consistent with the baseline of agricultural use. See **Appendix B1**, *Reclamation Plans*, for specifics about the reclamation plans proposed for County consideration. Internal roadways would be de-compacted, leveled, and graded. Belowground infrastructure, including DC collector cables, would be removed to a depth of 36 inches below ground surface. Rosemary Project infrastructure located at a depth that is not expected to interfere with future agricultural uses including deep zone tillage (i.e., infrastructure deeper than 36 inches below ground surface) would be left in place. In addition, previously compacted areas would be tilled to restore the subgrade material. Clean compactable subgrade material would be used to fill low areas, and locally sourced topsoil would be used to attain a depth and density similar to the surrounding properties. If necessary, compost could be spread over the Project site and tilled into the topsoil, followed by planting of an appropriate seed mixture of approved native and/or desirable plants followed by the application of weed-free mulch. This would assist in stabilizing the soil.

In addition, construction and decommissioning activities would require compliance with the Construction General Permit with its required implementation of a SWPPP. This would aid in minimizing the permanent loss of topsoil and damage from erosion. The BMPs may include, but are not 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 other measures identified by a qualified SWPPP preparer that would substantially reduce or prevent erosion from occurring during construction.

The Applicant-proposed erosion and sediment control measures described in Section 2.5.9.2 would be implemented and enforced during construction and decommissioning to reduce the potential for substantial erosion and the loss of topsoil to occur. These measures require the Applicant to enroll in the NPDES program and install sediment and erosion controls installed in accordance with an approved storm water pollution prevention plan (SWPPP). Erosion prevention measures would include the separation of topsoil during construction and stockpiling and stabilizing it separately from subsoil. When construction is complete, the stripped subsoil and topsoil would be replaced as required. Thus, given the temporary timeline of earthwork and ground disturbance, compliance with applicable federal, state, and local

requirements, and implementation of applicable APMs, the Rosemary Project's potential impacts associated with soil erosion and loss of topsoil during would be **less than significant**.

Mitigation: None required.

Impact 3.8-3: The PG&E Project would result in soil erosion or loss of topsoil during reconductoring-related construction activities. (*Less-than-Significant Impact*)

For the PG&E Project, PG&E would assess 78 existing poles and the existing conductor. This process would occur over a span of approximately 5 linear miles and generally would involve the installation of new conductor wires and, if needed, the replacement or improvement of existing poles. Ground disturbance would occur during these upgrades, which would include areas for the tubular steel poles (TSPs), guy structures, pull sites, and a laydown area. Construction would require the preparation of foundations using concrete pads, followed by excavation, grading, and concrete pouring. For the TSPs, excess soil on the site would be feathered around the work area or placed in a way consistent with applicable requirements. For the light-duty steel and wood poles, excess soil would be spread on-site or used to backfill the holes where the existing poles are removed. There would be no anticipated soil produced during conductor replacement.

As indicated in Chapter 2, Section 2.6.7, *PG&E Proposed Standard Practices and Measures*, the actions described in Section 2.6.7.7, *Other Construction Measures and Practices*, would reduce potential PG&E Project impacts on geology, soils, and paleontological resources. The Standard Practice for erosion control materials would be implemented to help ensure only tightly woven netting or similar material be used for erosion control materials, and no plastic monofilament matting would be used. Upgrades to Helm substation and Crescent switching station would occur within the boundaries of those facilities and would only require minimal ground disturbance, if any. PG&E Standard Measures also would be implemented during that work.

Thus, in light of the minimal ground disturbance that would be required coupled with the anticipated compliance with applicable federal, state, and local requirements and implementation of applicable Standard Practices, the PG&E Project's potential impacts associated with soil erosion and loss of topsoil during would be **less than significant**.

Mitigation: None required.

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.

Impact 3.8-4: 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 landslide, lateral spreading, subsidence, liquefaction, or collapse. (*Less-than-Significant Impact*)

As discussed in the context of Impact 3.8-1, the Project (including the Rosemary Solar Project and the PG&E Project) would have a less-than-significant impact related to liquefaction, lateral spreading, or other seismic-related ground failure. As discussed in the context of Criterion a.iv), the Project would have no

impact related to landslides. The Project site is not located in an area that has experienced substantial land subsidence. Westlands Water District (the local groundwater management agency) is required to address undesirable effects of groundwater pumping, including subsidence, as part of groundwater management in compliance with the Sustainable Groundwater Management Act. See Section 3.11, *Hydrology and Water Quality*, for additional details. In addition, as required by applicable state and local building codes, a final geotechnical report would be prepared to assess site-specific conditions and would include design recommendations to address any potential stability issues. As such, the Project would be designed to withstand the effects of settlement or collapsible soils. Areas of soft ground could be addressed by removal, replacement, or treatment of soils. With adherence to all applicable state and local building codes, the Rosemary Solar Project and the PG&E Project would avoid potential impacts on proposed improvements resulting from unstable soils, and potential impacts would be **less than significant**.

Mitigation: None required.

Criterion d) Whether the Project would be located on expansive soil, creating substantial direct or indirect risks to life or property.

Impact 3.8-5: The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property. (*Less-than-Significant Impact*)

As detailed in Table 3.8-1, *Soil Types in the Project Site*, expansive soils occur throughout the Project site. These soils include Tranquility-Tranquility, wet, complex, saline-sodic, and Tranquility clay soils, which have a very high rating of linear extensibility. Structures built on these expansive soils would be subject to expansion and contraction during wetting and drying, which could cause structural damage.

However, this risk of damage would be low if the subsoil, drainage, and foundations are properly engineered. As required by applicable state and local building codes, a geotechnical report would be prepared to determine the engineering needs of Project facilities, such as building foundations and recommend treatment procedures for expansive soils, as well as other soil-related issues, as needed.

Specifically regarding the PG&E Project, extensive ground disturbance is not expected to be necessary, as post and power poles will be driven into place rather than involving open excavation, and limited grading is expected for roads. If these investigations find that expansive soils are present at the PG&E Project site, then the requisite geotechnical report would include recommendations to help ensure that any structural improvements proposed to be constructed on such soils would be avoided, removed, or engineered to be suitable. Limited ground disturbance, if any, would be required for minor upgrades to Helm substation and Crescent switching station and would occur within the boundaries of those facilities. Adherence to the requirements of applicable state and local building codes and the recommendations provided in the geotechnical investigation would avoid impacts resulting from potentially expansive soils on the PG&E Project site, if any.

For these reasons, the Rosemary Project and the PG&E 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.

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.

Impact 3.8-6: The Rosemary 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*)

The Rosemary Project includes an on-site wastewater disposal system (i.e., a septic system including a septic tank and dispersal field) to be constructed, operated and maintained on the Rosemary Project site until removed as part of the decommissioning process. The system would be designed consistently with guidance in the Fresno County Local Area Management Program (LAMP).

Septic system installations are subject to County regulation and permitting requirements, which helps to ensure that septic systems are designed and installed to protect human health and safety and prevent degradation of water quality. This would avoid the risk of effluent surfacing. Further, the Project site's 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, Rosemary Project impacts associated with soil capable of supporting septic tanks or alternative wastewater disposal systems would be **less than significant**.

Mitigation: None required.

PG&E Project

The PG&E Project does not include the use of septic tanks or an alternative wastewater disposal system for the disposal of wastewater. Therefore, the PG&E Project would have **no impact** regarding the capability of affected soils to adequately support such a system. (*No Impact*)

Criterion f) Whether the Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impact 3.8-7: The Rosemary Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (*Less than Significant with Mitigation Incorporated*)

Disturbance of subsurface soils at a depth of, or deeper than, 5 feet below ground surface could occur as a result of construction of the Rosemary Project. During Project construction, most excavation would occur in Quaternary basin deposits, which are Holocene to Late Pleistocene. Specifically, as discussed in Chapter 2, *Project Description*, underground portions of the Rosemary Project's proposed collector system could be buried up to 5 feet below ground surface; the gen-tie line and redundant communication line, if trenched, would not exceed depths of 15 feet below ground; the tracking system for the solar modules would be anchored by steel support posts driven up to 15 feet into the ground; and the concrete foundation for a microwave tower, if needed, would have a maximum depth of 20 feet below ground surface. Rosemary project site soils would be disturbed again pursuant to decommissioning activities. Because the soil at depths that could be disturbed by the Rosemary Project could potentially extend into the

middle Holocene and Pleistocene deposits, which are considered to have a high sensitivity for paleontological resources, implementation of the Rosemary Project could destroy paleontological resources or unique geologic features if they are present. Given the limited extent and relatively shallow excavation needed for most construction activities and the limited amount of excavation that would occur in sediments with a high sensitivity for paleontological resources, it is not expected that paleontological resources would be disturbed. However, in the unlikely case that resources are uncovered, impacts (including destruction or damage) to unique paleontological resources would be a significant adverse impact.

O&M activities for the Rosemary Project pose **no impact** to these resources because no earthwork is expected to be required at or below 5 feet below ground surface.

For the Rosemary Project, to avoid or substantially reduce potential significant adverse impacts on paleontological resources, if present, during construction, **Mitigation Measure 3.8-1** and **Mitigation Measure 3.8-2** would require training for all personnel involved with earthwork related construction activities, and that construction 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: Conduct Worker Awareness Training

Before the start of excavation or grading activities at or deeper than 5 feet below ground surface, the project owner will retain a Project Paleontologist who is experienced in teaching non-specialists. The paleontologist will train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that are likely to be seen during construction, and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying the Project Paleontologist, who shall evaluate the significance of the find.

Mitigation Measure 3.8-2: Stop Work in the Event Fossils Are Encountered

In the unlikely event that fossils are discovered during ground disturbing activities, excavation within a 50-foot radius of the discovery will be temporarily halted or diverted until a county-approved Project Paleontologist determines whether the resource requires further study. The paleontologist will document the discovery, as needed evaluate the paleontological resources, and assess the significance of the find. The Project Paleontologist will notify the appropriate agencies to determine the procedures that would be required before construction activities are allowed to resume at the discovery site.

Significance after Mitigation: Less than significant for the Rosemary Project. Implementation of Mitigation Measure 3.8-1 and Mitigation Measure 3.8-2 would substantially reduce the potential for a significant impact to paleontological resources by providing awareness and protocols to Rosemary Project personnel, and halting work upon discovery and establishing appropriate next steps.

Impact 3.8-8: The PG&E Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (*Less-than-Significant Impact*)

Disturbance of subsurface soils at depths exceeding 5 feet below ground surface could occur pursuant to pole replacements, if needed, for the PG&E Project, but would not be required for upgrades to the Helm substation and the Crescent switching station. Because the soil at depths that could be disturbed by the PG&E Project could extend into the middle Holocene and Pleistocene deposits, which are considered to have a high sensitivity for paleontological resources, implementation of the PG&E Project could destroy paleontological resources or unique geologic features if they are present. Given the limited extent and relatively shallow excavation needed for most construction activities and the limited amount of excavation that would occur in sediments with a high sensitivity for paleontological resources, it is not expected that paleontological resources would be disturbed. However, in the unlikely case that resources are uncovered, impacts (including destruction or damage) to unique paleontological resources would be a significant adverse impact but for the fact that PG&E would implement standard best management practices for unanticipated fossil discovery and environmental awareness training, which would reduce the potential significance of any unanticipated fossil discoveries to help ensure that the significance of the impact would be **less than significant**.

O&M activities for the PG&E Project would pose **no impact** to these resources because the activities needed for O&M would be the same as the activities currently conducted under existing (baseline) conditions; thus, O&M of the PG&E Project would cause no net change to baseline, and so no impact.

3.8.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.8-2***, Summary of Project Impacts on Geology, Soils, and Paleontological Resources*, summarizes the impacts of the Project as a whole on geology, soils, and paleontological resources.

TABLE 3.8-2
SUMMARY OF PROJECT IMPACTS ON GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.8.4 Cumulative Effects

As previously discussed, the Project site is not located on a known active fault or an area susceptible to landslides. Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any cumulative effect related to these topics and so would result in no impact for these considerations. (*No Impact*)

Impact 3.8-7c: The Project would not cause or contribute to any potential significant adverse cumulative effect relating to paleontological resources. (*Less-than-Significant Impact*)

The geographic scope of cumulative effects 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 and Mitigation Measure 3.8-2 for the Rosemary Project, and implementation of PG&E best management practices, would effectively reduce the Project's incremental contribution to any cumulative effect 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 Rosemary Project's and the PG&E 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 and Mitigation Measure 3.8-2.

Impact 3.8-8: The Project would not cause or contribute to any potential significant adverse cumulative effect relating to geology and soils. (*Less-than-Significant Impact*)

The geographic area affected by the Project and its potential to contribute to cumulative effects varies based on the environmental resource under consideration. The geographic scope of the cumulative effects analysis for geology, soils, and paleontological impacts encompasses and is limited to the Project site (including the Rosemary Project site and the PG&E Project site) and its immediately adjacent area. This is because impacts relative to geology and soils are site-specific and depend on the nature and extent of the geologic hazard, and existing and future soil and groundwater conditions. For example, the effect of erosion would tend to be limited to the localized area of a project and could only be cumulative if erosion occurred as the result of two or more adjacent projects that spatially overlapped. Significant cumulative

effects related to geology, soils, and paleontological resources could occur if the incremental impacts of the Project combined with the incremental impacts of one or more of the cumulative projects on the Project site.

None of the projects summarized on the list of projects provided in Section 3.1.3, *Cumulative Effects Approach*, overlaps geographically with the Project. The closest cumulative project is the San Joaquin Solar project, which has been operational since 2018 and is located approximately 1 mile to the east. Given that there are no cumulative projects located on or adjacent to the Project site, the incremental less-than-significant impacts of the Project would not cause or contribute to any significant cumulative effect. The Rosemary Project's and the PG&E Project's cumulative effects on geology and soils would be **less than significant**.

Mitigation: None required.

3.8.5 References

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3.9 Greenhouse Gas Emissions

This section identifies and evaluates issues related to greenhouse gas (GHG) emissions, including the potential for a conflict between the Project and an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. The 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 input during the scoping process specifically regarding GHG emissions (**Appendix A**, *Scoping Report*).

This analysis is based in part on the air quality and GHG emission technical reports prepared by ICF for the Rosemary Project (**Appendix E1**) and the PG&E Project (**Appendix E2**). 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 the preparation of the EIR. The analysis is also informed by indirect emissions estimates prepared by ESA that would be associated with the battery energy storage system charging (**Appendix E4**).

3.9.1 Setting

3.9.1.1 Study Area

The California Air Resources Board (CARB) and U.S. Environmental Protection Agency (EPA) 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.

The San Joaquin Valley Air Basin is approximately 250 miles long and 35 miles in width (on average) and is bordered by the Coast Range Mountains on the west, the Sierra Nevada mountains on the east, and the Tehachapi Mountains to the south.

3.9.1.2 Environmental Setting

Greenhouse Gas Emissions

Greenhouse gases are gases that trap heat in the atmosphere. The main GHGs include carbon dioxide, methane, nitrous oxide, and fluorinated gases, as detailed below. There are other less prominent GHG emissions, including ground level ozone, water vapor, and aerosols (EPA 2025a). Emissions of these GHG's can remain in the atmosphere ranging from a few years to thousands of years. These gases remain in the atmosphere long enough to become well mixed, meaning that the amount that is measured in the atmosphere is roughly the same all over the world, regardless of the source of the emissions.

GHGs have different *warming potentials* (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas). GHG emissions are often measured in carbon dioxide (CO_2) equivalent. GHG emissions

are quantified and reported as CO_2-equivalent (CO_2e) 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 (EPA 2025a).

Carbon Dioxide

CO_2 is a naturally occurring gas that enters the atmosphere through both natural and anthropogenic (human) sources. Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and other biological materials, and also as a result of certain chemical reactions. CO_2 is removed from the atmosphere when it is absorbed by plants as part of the biological carbon cycle (EPA 2025a).

Methane

Methane is emitted from both natural and anthropogenic sources. Key anthropogenic sources of methane include gaseous emissions from landfills, mining and materials extraction industries, 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 (EPA 2025a).

Nitrous Oxide

Nitrous oxide is emitted from both natural and anthropogenic sources. These include industrial activities, agricultural activities (primarily the application of nitrogen fertilizer), the use of explosives, combustion of fossil fuels, decay of solid waste, and wastewater treatment (EPA 2025a).

Fluorinated Gases

Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (referred to as *F-gases*) are synthetic gases emitted from a variety of industrial processes. Unlike many other greenhouse gases, fluorinated gases have no significant natural sources and come almost entirely from anthropogenic sources. They are often used in coolants, foaming agents, fire extinguishers, solvents, pesticides, and aerosol propellants, and they contribute substantially more to the greenhouse effect on a pound-for-pound basis than the GHGs described previously (EPA 2025a).

Climate Change

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 a scientific consensus that climate change exists, and is caused by anthropogenic activity. GHG emissions trap heat in the atmosphere and contribute to this change. These changes are due to the buildup of GHGs in the atmosphere and the warming of the planet due to the greenhouse effect. Emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to increases in global temperatures (EPA 2025b).

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 2022). Globally, climate change could affect numerous environmental resources through potential, though uncertain, changes in future air temperatures and precipitation patterns. In turn, surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The expectation is that the ocean will continue to

warm and acidify, and global mean sea level will rise. Continued emission of GHGs will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in GHG emissions which, together with adaptation, can limit climate change risks (IPCC 2023).

Emissions Inventories

A GHG inventory is a list of emission sources and the associated emissions quantified using standardized methods. Organizations may develop GHG inventories for a variety of reasons, including the identification of reduction opportunities, voluntary or mandatory GHG programs, and participation in GHG markets. The United States inventories emissions through the EPA. CARB maintains California's statewide emission inventory.

In 2022, United States GHG emissions were about 6,343 million metric tons of carbon dioxide equivalent (CO_2e). GHG emissions have decreased by 3 percent from 1990 to 2022 and down from a high of 15.2 percent above 1990 levels in 2007. The decrease reflects the combined impacts of many long-term trends, including population, economic growth, energy market trends, technological changes including energy efficiency, and carbon intensity of energy fuel choices. Between 2021 and 2022, the increase in total GHG emissions was largely driven by an increase in fossil fuel combustion across most end-use sectors due in part to increased energy use from the continued rebound of economic activity after the height of the COVID-19 pandemic. In 2022, CO_2 emissions from fossil fuel combustion increased by 1.0 percent relative to 2021 and were 1.1 percent below emissions in 1990. CO_2 accounted for the largest percentage of GHGs (80 percent), followed by CH_4 (11 percent), nitrous oxide (6 percent), and fluorinated gases (3 percent). GHGs are emitted by all sectors of the economy, including transportation (28.4 percent), electricity generation (24.9 percent), industrial (22.9 percent), residential and commercial (13.5 percent), and agriculture (10 percent) (EPA 2024). Forests and other lands contributed to an offset of 13.5 percent of GHG emissions in 2019 (EPA 2024). The Draft 1990-2023 Inventory Report is available for public comment per federal register notice (90 *Federal Register* 3827-01). It is anticipated that this will be finalized and published in late 2025.

In 2022, California produced approximately 371.1 million metric tons (MT) CO_2e, which was 2.4 percent lower than 2021 emissions. Combustion of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for 37.7 percent of total GHG emissions in the state. This sector was followed by the industrial sector (19.6 percent), the electric power sector (including both in-state and out-of-state sources) (16.1 percent), the commercial and residential sector (10.6 percent), and the agriculture and forestry sector (8 percent). High global warming potential emissions from refrigerants and other sources made up 5.7 percent of the emissions while the waste sector resulted in 2.2 percent of the emissions (CARB 2024).

3.9.1.3 Regulatory Setting

Federal

Federal Clean Air Act

The Supreme Court decision in *Massachusetts et al. v. Environmental Protection Agency et al.* (Supreme Court Case 05-1120) found that the EPA has the authority to list GHGs as pollutants and to regulate

emissions of GHGs under the federal Clean Air Act. On December 7, 2009, former EPA Administrator Lisa P. Jackson signed findings that CO_2, CH_4, N_2O, HFC, PFC, and SF_6 may contribute to air pollution and may endanger public health and welfare. These findings were published to the Federal Register on December 15, 2009 (Docket ID No. EPA-HQ-OAR-2009-0171), and were relied on to establish and expand GHG and climate-focused regulations. However, on March 12, 2025, EPA Administrator Lee Zeldin announced that the EPA will reconsider the 2009 findings and all regulations and actions that rely on those findings. On July 29, 2025, the EPA formally proposed to rescind the 2009 finding (EPA 2025c), The reconsideration process is still ongoing as of the writing of this document, and the fate of federal GHG emissions regulations remains uncertain.

Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026

The EPA finalized the federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 in February 2022. These standards will leverage current and future technologies to result in the avoidance of more than 3 billion tons of GHGs through 2050. Vehicle trips associated with the Project would include passenger vehicles subject to the EPA GHG emission standards.

Bipartisan Infrastructure Law

In 2021, the Bipartisan Infrastructure Law took effect, resulting in the allocation of substantial funding to modernize transportation, enhance broadband access, improve water infrastructure, and support the transition to clean energy. Key provisions include investments in electric vehicle infrastructure, grid modernization, and renewable energy projects, all aimed at reducing emissions and enhancing climate resilience. The law emphasizes equitable access to these improvements, ensuring that underserved and rural communities benefit. Additionally, the Bipartisan Infrastructure Law enforces labor standards, mandates the use of American-made materials, and requires transparency and accountability in the allocation and use of funds. These measures collectively support the development of sustainable and resilient infrastructure, aligning with the goals of clean energy initiatives.

State

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Assembly Bill 32, Global Warming Solutions Act of 2006, and Senate Bill 32

The California Global Warming Solutions Act of 2006 (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codified the statewide goal of reducing GHG emissions to 1990 levels by 2020 and required CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO_2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

CARB approved the 2013 Scoping Plan update in May 2014. The update defined CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provided a framework for achieving the 2030 target. The 2017 Scoping Plan relied on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100. The 2017 Scoping Plan also put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan did not provide project-level thresholds for land use development. Instead, it recommended that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of 6 MT of CO_2e by 2030 and 2 MT of CO_2e by 2050 (CARB 2022). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

CARB published the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) in November 2022, as the third update to the initial plan that was adopted in 2008. The 2022 Scoping Plan Update identifies ways to achieve new targets for carbon neutrality by 2045 and to reduce anthropogenic GHG emissions to at least 85 percent below 1990 levels, while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan (CARB 2022).

The 2022 Scoping Plan Update reflects existing and recent direction in the Governor's Executive Orders and state statutes, which identify policies, strategies, and regulations in support of and implementation of the Scoping Plan. Among these include Executive Order B-55-18 and AB 1279 (the California Climate Crisis Act), which identify the carbon neutrality and GHG reduction targets for 2045 incorporated into the Scoping Plan. This report considers the 2022 Scoping Plan in the evaluation of criterion b) as set forth in Section 3.9.2, *Significance Criteria*.

CARB's 2022 Scoping Plan includes the following Electricity Goals:

- Keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030 and 85 percent below 1990 emissions by 2045.
- Reduce fossil fuel use.
- Reduce energy demand.
- Increase grid resiliency.

These goals would be accomplished through the Scoping Plan's ongoing and proposed measures, including:

- Per SB 350, double statewide energy efficiency savings in electricity and fossil gas end uses by 2030, through a combination of energy efficiency and fuel substitution actions.
- Per SB 350, connect long-term planning for electricity needs with the state's climate targets, adopting a 38 million MT GHG emissions target for the electricity sector in 2030, which drops to 35 million MT in 2032.
- Per SB 100 and SB 1020, achieve 60 percent, 90 percent, 95 percent, and 100 percent renewable and zero-carbon retail sales by 2030, 2035, 2040, and 2045 respectively.
- Prioritize public investments in zero-carbon energy projects to first benefit the most overly burdened communities affected by pollution, climate impacts, and poverty.

AB 1279

AB 1279 outlines the state's GHG reduction goal of achieving net zero GHG emissions (i.e., reach a balance between the GHGs emitted and removed from the atmosphere) no later than 2045. CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality as a framework for achieving AB 1279. It also mandates an 85 percent reduction in statewide anthropogenic GHG emissions from 1990 levels by 2045, and requires state agencies aim to achieve net-zero GHG emissions resulting from their operations no later than 2035, or as soon as feasible thereafter

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and affordable housing allocations. Metropolitan Planning Organizations are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the Metropolitan Planning Organizations' Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy[1] can receive incentives to streamline CEQA processing.

Pursuant to SB 375, CARB is required to update the regional targets no later than 2026. CARB staff began the target update process in 2024 with a public workshop and plans to conclude it in 2026 with CARB approval of the new targets. As of March 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. Fresno Council of Governments (COG) was assigned targets of a 6 percent reduction in GHG emissions from transportation sources by 2020 and a 13 percent reduction in GHG emissions from transportation sources by 2035 (CARB 2025). These updated emission reduction assignments have influenced the Fresno COG's Priority Climate Action Plan (PCAP) and Comprehensive Climate Action Plan (CCAP) development, as well as the Fresno County General Plan (General Plan), which are considered in the analysis of CEQA significance criterion b). The Fresno COG's PCAP and CCAP and the Fresno County General Plan each is summarized below.

[1] These are categorized as "transit priority projects."

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the energy sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. As a solar energy installation, the Project would have the potential to support the state's required increase in retail sales of renewable energy.

Executive Order B-55-18

On September 10, 2018, former Governor Brown issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 32, SB 375, and SB 100. The Project could help the state achieve its carbon emission reduction goals by providing a source of renewable energy to the region.

California Renewables Portfolio Standard

SB 1078 established the RPS in 2002, which required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from eligible renewable sources by 2017. SB 107 changed the target date to 2010. In November 2008, EO S-14-08 expanded the state's RPS goal to 33 percent renewable power by 2020. In September 2009, EO S-21-09 directed CARB (under its AB 32 authority) to enact regulations to help the state meet the 2020 goal of 33 percent renewable energy. The 33 percent by 2020 RPS goal was codified in April 2011 with SB X1-2. The updated RPS applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. SB 350 was signed in October 2015, and requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Most recently, SB 100, signed by Governor Brown on September 10, 2018, increases the RPS requirement to 60 percent eligible renewables by 2030 and 100 percent by 2045.

California Code of Regulations, Title 17, Section 95350 et seq.

In 2010, CARB adopted the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear (California Code of Regulations [Cal. Code Regs.] Title 17, Section 95350 et seq.). The purpose of this regulation is to achieve GHG emission reductions by reducing sulfur hexafluoride (SF_6) emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions rates, reduced each year until 2020, after which annual emissions must not exceed 1 percent. Owners must regularly inventory gas insulated switchgear equipment, measure quantities of SF_6, and maintain records of these for at least three years. Additionally, by June 1 each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year.

CARB adopted amendments to the regulation to update the phase out of SF_6 in gas-insulated switchgear. With the phase beginning in January 2025, all switchgear must be SF_6 free by January 2033. Under this resolution, CARB has developed a timeline for phasing out SF_6 equipment in California and created incentives to encourage owners to replace SF_6 equipment. The California Office of Administrative Law

approved this rulemaking in December 2021, and the Resolution went into effect January 1, 2022. This requires that annual emissions of SF_6 are not to exceed 1.0 percent. The air quality and GHG emissions technical report prepared for the Rosemary Project used an SF_6 leak rate of 0.5 percent to estimate Project fugitive SF_6 emissions; however, no such commitment has been made by the Applicant to limit fugitive SF_6 emissions beyond the requirements of the California Code. In compliance with this regulation, the fugitive SF_6 emissions from the six circuit breakers proposed as part of the Rosemary Project have been updated to assume a maximum annual leak rate of 1.0.

California Advanced Clean Trucks Program

In March 2021, CARB approved the Advanced Clean Trucks regulation, which requires manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. In addition, the regulation requires company and fleet reporting for large employers and fleet owners with 50 or more trucks. By 2045, all new trucks sold in California must be zero-emission. Implementation of this regulation could potentially reduce consumption of nonrenewable transportation fuels as construction-related trucks (potentially including Project-related trucks) transition to alternative fuel sources.

Executive Order B-48-18 (Zero-Emission Vehicles)

On January 26, 2018, Governor Brown signed Executive Order B-48-18 requiring all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as to install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the EV charging stations should be direct current fast chargers. This order also requires all state entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All state entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan, along with the 2018 ZEV Action Plan Priorities Update, which includes and extends the 2016 ZEV Action Plan (Governor's Interagency Working Group on Zero Emission Vehicles 2016, 2018), to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Passenger vehicles associated with construction worker commute trips for the Rosemary Project, for example, would have the potential to be subject to this regulation.

Executive Order N-79-20 (Zero Emissions Vehicles Sales)

Governor Gavin Newsom signed Executive Order N-79-20 in September 2020, which sets a statewide goal that 100 percent of all new passenger car and truck sales in the state will be zero-emissions by 2035. It also sets a goal that 100 percent of statewide new sales of medium- and heavy-duty vehicles will be zero emissions by 2045, where feasible, and for all new sales of drayage trucks to be zero emissions by 2035. Additionally, the Executive Order targets 100 percent of new off-road vehicle sales in the state to be zero emission by 2035. CARB is responsible for implementing the new vehicle sales regulation. Medium- and heavy-duty vehicles as well as off-road equipment used in the decommissioning phase of the Rosemary Project would be required to comply with the Executive Order.

Senate Bill 1020

SB 1020, which was signed into law on September 16, 2022, requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035, 95 percent by 2040, and 100 percent

by 2045. All state agency facilities must be served by 100 percent renewable and zero-carbon resources by 2030. SB 1020 also requires the California Public Utilities Commission, California Energy Commission, and CARB to issue a joint progress report outlining the reliability of the electrical grid with a focus on summer reliability and challenges and gaps. Additionally, SB 1020 requires the California Public Utilities Commission to define energy affordability and use energy affordability metrics to develop protections, incentives, discounts, or new programs for residential customers facing hardships due to energy or gas bills.

Local

Fresno Council of Governments

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. SB 375 requires Metropolitan Planning Organizations to prepare a Sustainable Communities Strategy in their Regional Transportation Plan. As discussed below, the Fresno COG developed the 2022 RTP/SCS as the region's strategy to fulfill the requirements of SB 375, along with the Bipartisan Infrastructure Law Moving Ahead for Progress in the 21st Century Act (i.e., MAP-21), the Fixing America's Surface Transportation Act, and the Transportation Conformity for the Air Quality Attainment Plan per Title 40 of the Code of Federal Regulations Part 51 and Part 93. The 2022 RTP/SCS establishes a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation. Specifically, the 2022 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and providing fair access to all residents affected by socioeconomic, geographic, and commercial limitations. The 2022 RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with it but provides incentives for consistency for governments and developers. The Fresno COG also developed and is in the process of implementing a Regional Climate Action Plan, as discussed below.

Priority and Comprehensive Climate Action Plans

The PCAP and CCAP is a two phased program administered by Fresno COG for Freno County to develop a region-wide climate action plan. Through funding provided by the EPA's Climate Pollution Reduction Grants (CPRG) program, this Regional Climate Action Plan will cover the 15 incorporated cities in Fresno County and the unincorporated Fresno County areas. The PCAP is the first component of the Regional Climate Action Plan which includes a GHG inventory, identification and quantification of priority GHG emissions reduction measures, a benefit analysis for low-income and disadvantaged communities, and identification of implementation authorities. The PCAP was approved by the Fresno COG Policy Board in February 2024 (Fresno COG 2025).

The PCAP included an inventory with a baseline year of 2019. It included the sectors of transportation[2], industrial emission, energy[3], water and wastewater, agriculture, and fugitive emissions. The County's total emissions for the source sectors analyzed were approximately 13,209,106 MT CO_2e in 2019. The transportation sector was the largest contributor to emissions, with 44 percent of the County's total GHG emissions. Agriculture and residential and commercial building energy use sources were the second and third largest contributor of GHG emissions with 19 percent and 17 percent of total emissions, respectively.

[2] This includes on-road, offroad, and aircraft sources.

[3] This includes residential and commercial sources.

Emissions from industrial sources represent 13 percent of the inventory. Approximately 4 percent of the emissions result from waste management, including solid waste and wastewater treatment. Other emissions sources, such as fugitive emissions from consumer products, represent approximately 3 percent of the emissions inventory. Based on the guidance from the EPA, a list of draft priority measures that are "near term, implementation ready, cost feasible and of considerable magnitude of GHG reduction" were drafted for the four identified priority sectors, which included five draft measures for the transportation sector, four for the agricultural sector, 10 for the building energy sector, and four for the waste sector (Fresno COG 2024).

The CCAP is currently in the process of being completed, and is expected to identify and quantify GHG emissions by sector and develop strategies to reduce GHG emissions across all sources, building on the efforts of the PCAP. Inventory sectors include transportation, industry, electricity generation, waste and recycling, commercial and residential buildings, agriculture, and natural and working lands. Measures will be included to target emission reductions across sectors. The CCAP is scheduled to be completed in spring 2025 and adopted summer 2025 (Fresno COG 2025).

Fresno County 2024 General Plan

The Fresno County General Plan contains goals and policies related to climate change adaptation including those applicable to GHG emissions and associated climate change effects. However, none of these goals or policies applies to the Project (Fresno County 2024).

Fresno Council of Governments 2022 Regional Transportation Plan & Sustainable Communities Strategy

Fresno COG's RTP/SCS outlines a regional transportation network that is environmentally sensitive and reduces GHG emissions from 2022 through the year 2046 (Fresno COG 2022). New transportation facilities must avoid or fully mitigate all significant impacts on environmentally sensitive areas and natural resources such as minimizing loss of farmland. Increased transportation and facility design is encouraged, along with infill development near existing public transportation, which is intended to reduce vehicle miles traveled (VMT) and the GHG emissions from those mobile sources. The RTP/SCS is used as part of the significance thresholds for the evaluation of the Project to satisfy criterion b).

San Joaquin Valley Air Pollution Control District

The Project site is wholly located within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). In August 2008, the SJVAPCD's Governing Board adopted the Climate Change Action Plan, which includes 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.

In 2009, the SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA*. The guidance relies on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review CEQA process, as required by CEQA (SJVAPCD 2009a, 2009b).

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less

than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions from business-as-usual is required to determine that a project would have a less-than-cumulatively-significant impact and be consistent with AB 32 2020 targets. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change (SJVAPCD 2009c). As SJVAPCD's adopted BPS have been designed to help meet the 2020 emissions targets, compliance with these BPS are not applicable to determining significance for projects developed subsequent to 2020.

California Air Pollution Control Officers Association

California Air Pollution Control Officers Association (CAPCOA) is a non-profit association made up of the Air Pollution Control Officers from all 35 local air quality agencies throughout California. CAPCOA was formed in 1975 and aims to promote unity and efficiency across air quality regulatory agencies and strives to encourage consistency in methods and practices of air pollution control. CAPCOA recommends the interim 900 MT CO_2e per year screening level as a theoretical approach to identify projects that require further analysis and potential mitigation (CAPCOA 2008). CAPCOA created this threshold based on data from pending residential and commercial applications in four cities (Los Angeles, Pleasonton, Dublin, and Livermore) to capture 90 percent of the residential units or office space in the pending applications. The objective was to set the threshold low enough to capture a substantial fraction of future residential and non-residential development that will be constructed to accommodate statewide future population and job growth, while setting the emission threshold high enough to exclude small development projects that will contribute a relatively small fraction of the overall statewide GHG emissions. CAPCOA also recommends this threshold for non-office commercial projects and industrial projects to provide equivalency for different projects in other economic sectors. CAPCOA has identified other threshold options, including a net zero emissions threshold where only projects that result in a reduction of GHG emissions compared to baseline emissions would have less-than-significant impacts. However, CAPCOA describes this threshold as "highly problematic" for multiple reasons, including its logistical feasibility, the level of difficulty to mitigate all project emissions, and because it could eliminate the ability for CEQA lead agencies to use categorical exemptions and negative declarations for a wide range of projects (CAPCOA 2008).

3.9.2 Significance Criteria

A project would result in significant impacts on 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 Standard Practices

The Rosemery Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas.

The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. None of the APMs focus on GHG emissions.

Similarly, PG&E and its contractors routinely implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the actions described focus on GHG emissions.

3.9.3.2 Methodology

Neither CEQA Guidelines Section 15064.4 nor any other law requires or endorses a specific analytical methodology or quantitative criteria for determining the significance of GHG emissions.[4] 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 of Regs. Section 15064[h][3]).

In addition, the calculations for the Project's GHG emission estimates are provided for the sequential buildout of the Project, as this provides a more conservative estimate. The concurrent buildout scenario has also been calculated and can be found in Appendix E2. For the purposes of this CEQA analysis, the sequential buildout emissions projections are used to provide a maximum GHG emissions scenario for analysis. The Project is a solar energy generating, energy storage, and energy transmission project, and direct and indirect GHG emissions from the Project are discussed in the context of larger statewide GHG emission reduction goals, where a significant impact would occur if emissions would obstruct the attainment of the targets outlined in SB 32 or AB 1279.

SJVAPCD has adopted its *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* (SJVAPCD 2009b). A GHG emissions analysis is required to be included in CEQA documents for all non-exempt projects. SJVAPCD's CEQA guidelines do not identify a GHG emissions threshold for construction-related emissions. The guidelines include thresholds to evaluate operational emissions, but these are only applicable to community land use development and stationary source projects. The Rosemary Project is a solar energy generating and energy storage project that does not fit into the community land use development or stationary source project categories. Accordingly, there are no adopted quantitative SJVAPCD GHG thresholds relevant to the Rosemary Project. The SJVAPCD guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change and supports the use of the interim threshold established by CAPCOA when adopted thresholds are not applicable (SJVAPCD 2009b).

[4] See *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (identifying three "potential options" for lead agencies evaluating cumulative significance of a proposed land use development's GHG emissions and explicitly stating that none of the three options came with a "guarantee" that it would be sufficient if later challenged).

CAPCOA has recommended the interim 900 MT CO_2e per year screening level as a theoretical approach to identify projects that require further analysis and potential mitigation (CAPCOA 2008). However, this threshold does not address CARB's latest goal for achieving carbon neutrality by 2045 as identified in Executive Order B-55-18 and AB 1279 and reflected in the 2022 Scoping Plan Update. CAPCOA has also identified a net zero emissions threshold where only projects that result in no increase or a reduction of GHG emissions compared to baseline emissions would be considered to result in a less-than-significant GHG emissions impact (CAPCOA 2008). This threshold could be used to generally demonstrate consistency with CARB's goal of carbon neutrality by 2045. The statewide goal of carbon neutrality by 2045 would likely be achieved on a net emissions basis, meaning some projects would increase emissions while others would result in reduced emissions. Therefore, a modest emissions increase for some projects may not necessarily conflict with the overall GHG emissions reduction goal for carbon neutrality. However, given the nature of the Project as a renewable energy project, the County considers the net zero emissions significance threshold to be appropriate for use in this CEQA review.

Because impacts from construction activities occur over a relatively short-term period, they contribute a relatively small portion of the overall lifetime project GHG emissions. It is common practice to amortize construction-related GHG emissions over the project's lifetime in order to include these emissions as part of a project's annualized total emissions so that GHG reduction measures would address construction GHG emissions as part of the operational GHG reduction strategies. The Project emissions have been amortized over 40 years, as this is the anticipated lifespan of the Project.

As stated in the Project Description, the anticipated operational term of each of the CUPs for the Rosemary Project is 40 years. Therefore, the construction and decommissioning GHG emissions from the Rosemary Project have been annualized over a 40-year period and considered along with the annual operational emissions for comparison with the local and state GHG attainment targets. In addition, although the PG&E Project would operate in perpetuity once construction is complete, these related emissions have also been annualized over the same 40-year period.

The major source of GHG emissions during construction and decommissioning 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 site. Operational GHG emissions would result from employee vehicle trips made to and from the Rosemary Project site, fugitive SF_6 emissions, energy storage system charging, and from on-site emergency generator testing and maintenance. Total construction and decommissioning emissions from the Rosemary Project were annualized over its expected project life and combined with the Rosemary Project's long-term annual operational emissions derived from CalEEMod. To obtain the CO_2e emission calculations, Rosemary Project emissions of CO_2, CH_4, and nitrous oxide were multiplied by their respective global warming potentials of 1, 25, and 298, respectively, and summed together to estimate CO_2e emissions (Appendix E1). The input data for construction, decommission, and operation emission estimates for the Rosemary Project are discussed below and provided in Appendix E1, which also includes CalEEMod output files. The indirect emissions that would be associated with the battery energy storage system charging were calculated by applying GHG intensity factors per the net MWh that would be used and dispatched. See Appendix E4 for calculations and methodology. The same methodology was employed for the PG&E Project (see Appendix E2).

The Rosemary Project related emissions are then aggregated with the PG&E Project emissions to calculate an estimated total combined construction, decommission, and operation emissions. The total net Project emissions are compared to the net zero CO_2e per year threshold. In summary, the Project-generated GHG emissions are evaluated against the CAPCOA net zero CO_2e per year thresholds, as well as the attainment targets outlined in SB 32 and/or AB 1279.

3.9.3.3 Direct and Indirect Effects of the Project

Criterion a) Whether the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

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*)

Rosemary Project

Construction and Decommissioning

The Rosemary Project's construction activities would involve the use of off-road construction equipment, vendor trucks, and worker vehicles, all of which would emit GHGs. Electricity consumption for dust control water processing would also generate a minor amount of indirect emissions. Emissions generated during construction would be short-term in nature, lasting only for the approximately 18-month duration of the construction period. Decommissioning activities would be similar in nature to those required during construction such as off-road construction equipment, vendor trucks, and worker vehicles. As with emissions during construction, GHG emissions generated during decommissioning of the Rosemary Project would be short-term, lasting only for the duration of the decommissioning period of approximately 12 months, and would not represent a long-term source of GHG emissions. Ultimately, the construction and decommissioning phases would be responsible for generating most of the emissions associated with the Rosemary Project. As such, **Table 3.9-1**, *Annual Rosemary Project Construction and Decommissioning GHG Emissions*, shows the annual GHG emissions for each year of construction and decommissioning for the Rosemary Project calculated in metric tons per year CO_2e. The table also presents the total and annual (amortized over 40 years) construction and decommissioning emissions. Additional details on calculations and CalEEMod output files can be found in the *Air Quality and Greenhouse Gas Assessment for the Rosemary Solar and Storage System Complex Project* included as Appendix E1.

Operation and Maintenance GHG Emissions

The emissions presented in **Table 3.9-2**, *Annual Rosemary Project O&M GHG Emissions*, represent the emissions that would no longer be captured and stored at the site due to the removal of vegetation and the emissions that would be directly or indirectly generated during the operation and maintenance (O&M) phase of the Rosemary Project due to vegetation maintenance, panel washing, inspections, and energy storage system charging. For the purposes of analysis, O&M phase emissions have been calculated for a duration of 40 years, which is conservative in that the construction and decommissioning emissions discussed above also would be generated during the 40-year term of the Rosemary Project's land use approvals.

TABLE 3.9-1
ANNUAL ROSEMARY PROJECT CONSTRUCTION AND DECOMMISSIONING GHG EMISSIONS

Year and Activity	CO_2e (metric tons/year)
Construction (2026)	2,356
Construction (2027)	1,669
Decommissioning (2067)	742
Decommissioning (2068)	33
Total Emissions	4,800
Total Emissions (amortized over 40 years)	120

NOTE: CO_2e = carbon dioxide equivalent
SOURCE: Appendix E1, Table 14.

TABLE 3.9-2
ANNUAL ROSEMARY PROJECT O&M GHG EMISSIONS

Source	CO_2e (metric tons/year)
Stored Carbon Loss	3,584
Rosemary Shared Facilities O&M[a]	3,107
Rosemary Battery Energy Storage System[b] Charging (amortized over 40 years)	2,644
Total Emissions (amortized over 40 years)	9,335

NOTES: CO_2e = carbon dioxide equivalent
a. The air quality and GHG emissions prepared for the Rosemary Project included in Appendix E1 used an SF_6 leak rate of 0.5 percent; however, the Applicant has not formally committed to achieving that low of a leak rate. Therefore, the fugitive SF6 emissions for the Project that are included in this emissions amount have been updated based on a leak rate of 1.0 percent, consistent with CARB's Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear.
b. As a conservative estimate, the energy storage system is anticipated to be charged from the grid using average annual grid emission factors for 2026 through 2046 for indirect emissions that would be generated associated with the net consumption of 90 GWh/yr. See Appendix E4 for calculations and methodology.
SOURCE: Appendix E1, Table 14.

The Rosemary Project's annual emissions associated with O&M activities are shown in Table 3.9-2. O&M of the Rosemary Project would generate GHG emissions from energy use (electricity consumed by the Rosemary Project would not be from on-site energy generation to maintain alternating current design); motor vehicle trips to and from the Project site; off-road equipment exhaust; stationary sources (i.e., emergency generators); refrigerants used in cooling off the proposed battery energy storage system; SF_6 leakage from the estimated six circuit breakers; and electricity associated with water used by the Project. The total estimated Rosemary Project emissions associated with O&M amortized over 40 years would be approximately 9,335 CO_2e per year. Operation of the Rosemary Project would provide renewable electricity to the regional electric grid, displacing an equivalent amount of fossil-fuel generated power. Because electricity generated by solar does not produce any GHG emissions, avoided fossil-fuel generated electricity would result in a GHG reduction. Annual reductions achieved by the Rosemary Project would decline overtime as the statewide electric grid increases renewable energy production and eventually achieves

carbon neutrality by the end of 2045. After 2045, the Rosemary Project would continue to operate and support the state's clean energy electric grid but is not assumed to avoid any fossil-fuel power or emissions.

In total, for construction, O&M, and decommissioning, the Rosemary Project would result in 378,200 MT CO_2e over the 40-year life of the Project. Avoided emission reductions from avoiding fossil-fuel electricity and associated emissions would equate to a total reduction of 513,892 MT CO_2e over the 40-year life of the Project (Appendix E1). Thus, the Rosemary Project would yield a net total emission reduction of 135,692 MT CO_2e over the 40-year life of the Project. **Table 3.9-3**, *Rosemary Project Estimated Amortized GHG Emissions*, below details total emissions associated with the Rosemary Project over all phases amortized over 40 years.

TABLE 3.9-3
ROSEMARY PROJECT ESTIMATED AMORTIZED GHG EMISSIONS

Emission Category	CO_2e (metric tons/year)
Construction and Decommissioning Emissions	120
O&M Emissions	9,335
Total Emissions	9,455
Total Emissions Avoided	-12,847
Total Rosemary Project Net Change	-3,392

NOTES: CO_2e = carbon dioxide equivalents

Avoided Emissions were calculated using Project electricity generation and EPA's (2024) eGrid 2022 emission factors. The eGrid emission factors were extrapolated out to future years based on RPS goals for the state. After 2045, the Rosemary Project would continue to generate solar electricity but will not avoid any emissions because it is assumed the statewide grid will achieve carbon neutrality by December 31, 2045, per state regulation. Net Change= Difference in Rosemary Project emissions and avoided emissions, where negative values represent a net reduction.

SOURCE: Appendix E1

As shown in Table 3.9-3 above, implementation of the Rosemary Project is estimated to achieve a net amortized GHG reduction of about 3,392 metric tons CO_2e per year. These reductions would be an environmental benefit, assisting the state in meeting larger statewide GHG reduction goals outlined under AB 1279 to reduce emissions that drive climate change.

PG&E Project

Construction and O&M

Reconductoring activities would generate GHG emissions from off-road equipment exhaust, employee and truck vehicle exhaust (on-road vehicles), and electricity required to convey and treat water for dust control. Estimated GHG emission are presented in **Table 3.9-4** below.

As shown in Table 3.9-4, reconductoring and substation upgrade activities would generate a total of 202 metric tons CO_2e. While employing the stated methodology, amortized over 40 years, this equates to approximately 5 metric tons CO_2e per year. There would be no net change in GHG emissions caused by O&M activities for the PG&E Project as compared to existing conditions.

TABLE 3.9-4
PG&E PROJECT ESTIMATED TOTAL GHG EMISSIONS

Year	CO_2e (metric tons/year)
2026	139
2027	63
Total	202
Total (amortized over 40 years)	5

NOTES: CO_2e = carbon dioxide equivalents
SOURCE: Appendix E2, Table 12.

Impact Conclusion for the Project

The Project, which includes both the Rosemary Project and the PG&E Project, would generate emissions from the sources as described above. Consolidated emissions for the Project as a whole are shown in **Table 3.9-5**.

TABLE 3.9-5
TOTAL PROJECT AMORTIZED GHG EMISSIONS

Activity	CO_2e (metric tons/year)
Rosemary Project net total	-3,392
PG&E Project	5
Project net Total	-3,387

NOTES: CO_2e = carbon dioxide equivalents; Stored carbon loss = Apportions half of the sitewide stored carbon loss to each year of sequential construction.
SOURCES: Tables 3.9-3 and 3.9-4.

The Project would result in a maximum of 378,402 metric tons CO_2e over the Project's lifespan. However, when avoided emissions offsets are factored in, the Project would yield a net reduction of 135,490 metric tons CO_2e over its lifespan, or an amortized net reduction of -3,387 metric tons CO_2e per year as presented in Table 3.9-5, above. This is well below the net zero significance threshold. In addition, the Project would comply with applicable plans and policies adopted to reduce GHG emissions, as discussed above under each of the project components scenarios. Long-term operation of the Project would achieve a net lifetime GHG reduction, as discussed further under the Rosemary Project analysis above.

Further, the Project would provide the capacity to generate, as well as store, up to approximately 140 megawatts of renewable energy, which would be dispatched into the existing electrical grid through the updated transmission infrastructure. 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, as well as many of California's clean energy procurement goals. By supporting the generation and storage of excess renewable energy, the Rosemary Project and PG&E Project would have a l**ess-than-significant impact** on the environment.

Mitigation: None required.

Criterion b) Whether the Project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Impact 3.9-2: The Project would be consistent with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. (*Less-than-Significant Impact*)

Rosemary Project

A project would not have a significant GHG impact if it is consistent with an applicable plan to reduce GHG emissions. As discussed in the context of Impact 3.9-1, energy generated and stored by the Rosemary Project is expected to replace existing fossil fuel–generated energy, and would help the state achieve the renewable energy targets established under the 2022 CARB Scoping Plan and SB 100 by supporting the dispatch of renewable energy to achieve the RPS Program goal of 60 percent by the end of 2030 and 100 percent by 2045. The Rosemary Project would address the critical need for the rapid expansion and deployment of clean energy generation and storage resources as described in the Scoping Plan to reduce GHG emissions. Although the Project would generate short-term GHG emissions, it would result in a net reduction in GHG emissions from the dispatch of 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 in Fresno County and beyond by allowing energy to be used more efficiently. The Project would be consistent with the Scoping Plan, would not impede the GHG reductions from cars and light-duty vehicles required by Fresno COG's 2022 RTP/SCS, and would not conflict with any goals and measures outlined in the Fresno COG PCAP, as described in more detail below.

The Project aligns with CARB's 2022 Scoping Plan by supporting the building of clean energy infrastructure, facilitating electrification efforts, and enabling the rapid deployment of clean technologies. It contributes to the development of renewable energy, the integration of renewable energy sources into the grid, and helps ensure reliability and resiliency of the electricity grid. By providing a means to store electricity generated from solar energy and dispatch that energy during high times of high demand, the Rosemary Project helps reduce strain on the grid and optimizes energy usage. This promotes the effective utilization of renewable energy resources and reduces the need for additional fossil fuel-based power generation. The Rosemary Project would play a crucial role in achieving California's goals of carbon neutrality, reducing reliance on fossil fuels, and improving grid reliability as outlined in the 2022 Scoping Plan.

The Fresno COG's RTP/SCS is an applicable plan adopted for the purpose of reducing GHG emissions from the land use and transportation sectors in Fresno County, amended in 2022 as described above in Section 3.9.1.3*, Regulatory Setting.* The per capita GHG reduction target from transportation emissions for Fresno COG is 13 percent from 2005 levels by 2035. In addition, Fresno COG has adopted a 2046 target of a 12 percent reduction from 2010 levels. The GHG emissions Fresno COG used to determine the measures in its RTP/SCS are based on the general plans of local cities and counties, as well as demographic data trends and projections that include household, employment, and total population statistics. The 2022 RTP/SCS notes that its land use assumptions include the loss of just under 2,000 acres of farmland of any type and 48.9 acres of important farmland but notes the importance of conserving Prime and Unique

Farmland, and Farmland of Statewide Importance. As discussed in Section 3.12, *Land Use and Planning*, the Project is consistent with Fresno County's General Plan. In addition, the Project would not directly contribute to the conversion of Unique Farmland or Farmland of Statewide Importance as analyzed under criterion a) in Section 3.3, *Agriculture and Forestry Resources.* Given this, the Project would not conflict with the Fresno COG 2022 RTP/SCS.

The PCAP outlines reduction targets for transportation, industrial emission, energy, water and wastewater, agriculture, and fugitive emissions. The PCAP develops reduction targets consistent with AB 32 targets, thus Project compliance with Fresno COG RTP/SCS and the 2022 CARB Scoping Plan would satisfy compliance with the PCAP emission reduction standards. In addition, the measures outlined in the PCAP seek to reduce reliance on fossil fuel and increase clean energy dependence in Fresno County. The Rosemary Project would provide a renewable source of energy that could displace electricity generated by fossil-fuel-fired power plants and therefore would comply with the goals and objectives outlined in the PCAP. Similarly, none of the priority actions outlined in the PCAP directly apply to construction emission sources associated with the Project. Thus, the Rosemary Project, through providing solar energy generation and transmission infrastructure upgrades (through reconductoring) would not conflict with any of the goals and measures outlined in the PCAP.

The Rosemary Project is consistent with all applicable plans, policies, and regulations adopted for the purposes of reducing GHGs, and the long-term GHG reductions achieved by the Project, as analyzed under Impact 3.9-1, and would directly support implementation of AB 1279, as implemented by CARB's 2022 Scoping Plan. In addition, the intent, purpose, and function of the overall Project aligns with the goals of the PCAP and SB 32, as well as the state's long-term objective of carbon neutrality. Thus, with respect to potential conflicts with a plan, policy, or regulations for reducing GHG emissions, the Rosemary Project would have a **less-than-significant** and beneficial impact.

PG&E Project

The PG&E Project would play a key role in assisting the Rosemary Project with replacing existing fossil fuel–generated energy and would help the state achieve the renewable energy targets established under the 2022 CARB Scoping Plan and SB 100 by supporting the dispatch of renewable energy to achieve the RPS Program goal of 60 percent by the end of 2030 and 100 percent by 2045. The PG&E Project would assist the Rosemary Project in addressing the critical need for the rapid expansion and deployment of clean energy generation and storage resources as described in the Scoping Plan to reduce GHG emissions. Although the PG&E Project would generate short-term GHG emissions, it would assist the Rosemary Project in the net reduction in GHG emissions from the dispatch of renewable energy that would potentially replace energy generated by fossil fuels. The PG&E Project would be consistent with the Scoping Plan, would not impede the GHG reductions from cars and light-duty vehicles required by Fresno COG's 2022 RTP/SCS, and would not conflict with any goals and measures outlined in the Fresno COG PCAP, as described in more detail below.

The Project aligns with CARB's 2022 Scoping Plan by supporting the building of clean energy infrastructure, facilitating electrification efforts, and enabling the rapid deployment of clean technologies. It would assist in the contribution to the development of renewable energy, the integration of renewable energy sources into the grid, and helps ensure reliability and resiliency of the electricity grid. By assisting the Rosemary Project in providing a means to store electricity generated from solar energy and dispatch

that energy during high times of high demand, the PG&E Project would help reduce strain on the grid and optimize energy usage. This promotes the effective utilization of renewable energy resources and reduces the need for additional fossil fuel-based power generation. The PG&E Project would play a crucial role in achieving California's goals of carbon neutrality, reducing reliance on fossil fuels, and improving grid reliability as outlined in the 2022 Scoping Plan.

The PCAP outlines reduction targets for transportation, industrial emission, energy, water and wastewater, agriculture, and fugitive emissions. The PCAP develops reduction targets consistent with AB 32 targets, thus PG&E Project compliance with Fresno COG RTP/SCS and the 2022 CARB Scoping Plan would satisfy compliance with the PCAP emission reduction standards. In addition, the measures outlined in the PCAP seek to reduce reliance on fossil fuel and increase clean energy dependence in Fresno County. The PG&E Project would assist the Rosemary Project in providing a renewable source of energy that could displace electricity generated by fossil-fuel-fired power plants and therefore would comply with the goals and objectives outlined in the PCAP. Similarly, none of the priority actions outlined in the PCAP directly apply to construction emission sources associated with the PG&E Project. Thus, the PG&E Project, through assisting the Rosemary Project in providing solar energy generation and transmission infrastructure upgrades (through reconductoring) would not conflict with any of the goals and measures outlined in the PCAP.

The PG&E Project is consistent with all applicable plans, policies, and regulations adopted for the purposes of reducing GHGs, and assisting in the long-term GHG reductions achieved by the Rosemary Project, as analyzed under Impact 3.9-1, would directly support implementation of AB 1279, as implemented by CARB's 2022 Scoping Plan. In addition, the intent, purpose, and function of the overall PG&E Project aligns with the goals of the PCAP and SB 32, as well as the state's long-term objective of carbon neutrality. Thus, with respect to potential conflicts with a plan, policy, or regulations for reducing GHG emissions, the PG&E Project would have a **less-than-significant** and beneficial impact.

Mitigation: None required.

3.9.3.4 Summary of Project Impact Conclusions

Based on the analysis above, the GHG emissions of the Project as a whole that are described in **Table 3.9-6**, *Summary of Project Impacts on GHG Emissions*, would result in less-than-significant impacts.

TABLE 3.9-6
SUMMARY OF PROJECT IMPACTS ON GHG EMISSIONS

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions?	☐	☐	☒	☐

3.9.4 Cumulative Effects

Impact 3.9-3: The Project would not cause a cumulatively considerable contribution to a significant adverse GHG impact. (*Less-than-Significant Impact*)

Global GHG emissions are inherently a cumulative concern that is understood for CEQA purposes to be an existing significant and adverse condition. 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 effects 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. CAPCOA considers GHG impacts to be exclusively cumulative effects, 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 in this section evaluated whether the Project would make a considerable contribution to cumulative emissions of GHG. The Project would result in a net reduction in GHG emissions over a 40-year period and would not conflict with any of the state's GHG reduction goals. Therefore, the Rosemary Project's and PG&E Project's incremental impact on GHG emissions would not be cumulatively considerable, and the cumulative effect would be **less than significant**.

Mitigation: None required.

3.9.5 References

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3.10 Hazards and Hazardous Materials

This section identifies and evaluates issues related to hazards and hazardous materials including, but not limited to, the routine transport, use, or disposal of hazardous materials; potential upsets and accident conditions; releases in proximity to schools; proximity to airports; and adopted emergency response plans and emergency evacuation plans. The 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. 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 County received no scoping input pertaining to hazards and hazardous materials (**Appendix A**, *Scoping Report*).

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 I**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed the Phase I environmental site 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.

3.10.1 Setting

3.10.1.1 Study Area

The study area for assessing hazards and hazardous materials impacts consists of the Project site and the immediately adjacent area of 0.25 mile, with one exception discussed below. This is because impacts related to hazardous materials (such as spills) are generally site-specific, location-specific and otherwise depend on the nature and extent of a potential hazardous materials release. The study area for proximity to schools and airports extends to 0.25 miles and 2 miles, respectively, beyond the borders of the Project site. These distances are specified in the significance criteria suggested in the CEQA Guidelines Appendix G environmental checklist. The distance for proximity to schools reflects that children are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. The distance for airports has been selected to allow analysis for constructed structures that might interfere with navigable airspace.

3.10.1.2 Environmental Setting

Definition of Hazardous Materials

A *hazardous material* is defined 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 if released into the workplace or the environment (Health and Safety Code Section 25501[n]). The term *hazardous materials* refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to catch fire or burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). The four primary exposure pathways through which an individual can be exposed to a hazardous material or waste are inhalation, ingestion, adsorption via contact with the skin or eyes, and injection.

In some cases, past industrial or commercial activities on a site have resulted in spills or leaks of hazardous materials or wastes to the subsurface, resulting in soil or groundwater contamination. Depending on the type and concentration of contamination, hazardous materials can threaten human health and the environment if present in the soil, groundwater, or air. Exposure can result from an accidental release of hazardous materials during transport, storage, or handling. Disturbance of contaminated subsurface soil during construction also can cause exposure to workers, the public, or the environment through excavating, stockpiling, handling, or transport of such soils.

Rosemary Project Site

The Rosemary Project site is fallowed farmland that has not been irrigated for 20 years. Paved and unpaved roads, canals, and agricultural ditches are present. There are no existing buildings, sewage facilities, or lighting sources on the site. The site is relatively flat.

PG&E Project Site

The PG&E Project site is already used for energy-related purposes, as the PG&E Helm Substation is an existing electric power distributor and PG&E Crescent Switching Station is also an electric distribution facility. The PG&E Project site consists of an approximately 5-linear mile segment within an approximately 50-foot-wide corridor. Proposed work includes the replacement and improvement of existing poles and installation of new conductor wire between Helm Substation and Crescent Switching Station, as well as upgrades within the boundaries of the substation facilities. The work areas for power lines would be in public streets, roads, and highways.

Soil and Groundwater Contamination

In California, regulatory databases listing hazardous materials sites provided by numerous federal, state, and local agencies are consolidated in the "Cortese List" pursuant to Government Code Section 65962.5, which has been in effect since 1992. However, subsequent changes in web-based information availability since that time have made a consolidation of this list no longer necessary and various responsible agencies maintain the following lists and databases:

- List of Hazardous Waste and Substances sites from the EnviroStor database maintained by the Department of Toxic Substances Control (DTSC) (2024).
- List of Leaking Underground Storage Tank Sites by County and Fiscal Year from the GeoTracker database maintained by the State Water Resources Control Board (State Water Board) (2024).
- List of solid waste disposal sites identified by the State Water Board with waste constituents above hazardous waste levels outside the waste management unit.
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the State Water Board.
- List of hazardous waste facilities subject to corrective action pursuant to Health and Safety Code Section 25187.5, as identified by DTSC and listed on its EnviroStor database.

The five databases cited above identify sites with suspected and confirmed releases of hazardous materials to the subsurface soil and/or groundwater. The State Water Board's GeoTracker database (State Water Board 2024) includes leaking underground storage tanks, permitted underground storage tanks, U.S. Department of Defense sites, and Cleanup Program sites. DTSC's EnviroStor database (DTSC 2024)

includes federal and state response sites; voluntary, school, and military cleanups and corrective actions; and permitted sites. The reporting and statuses of these sites change as identification, monitoring, and cleanup of hazardous materials sites progress. Typically, a listed site is considered no longer to be of concern once it has been demonstrated that existing site uses combined with the levels of identified contamination present no significant risk to human health or the environment and the case is closed by the overseeing agency.

According to a review of the GeoTracker and EnviroStor databases, the Project site is not included as an active leaking underground storage tank site or a Cleanup Program site, nor are there any open cases within 0.25 mile of the Project site (State Water Board 2024; DTSC 2024). In addition, the Phase I assessment reviewed records of hazardous materials sites farther from the Project site to assess the potential for presence of contaminated groundwater (see Appendix I). There were no listings for the Project site upon a review of the other three Cortese lists.

Proximity to Schools

The Project would not be located within 0.25 mile of any schools. The nearest school to the Project site is San Joaquin Elementary School, located 1.25 miles northwest of the PG&E Project site and approximately 5 miles north of the Rosemary Project site.

Proximity to Airports

The Project would not be within two miles of an airport with the nearest airport, San Joaquin Airport, located 2.25 miles west of the Helm Substation and approximately 5 miles north of the Rosemary Project site.

Wildland Fire Hazard

Within California, fire hazard severity zones are designated by the California Department of Forestry and Fire Protection (CAL FIRE) (2007, 2023). CAL FIRE uses a five-tiered ranking system to assess the threat to people based on fuel hazard, wildland fire potential, and housing density. Section 3.20, *Wildfire*, provides additional information about the fire hazard severity zones and jurisdictions potentially crossed by the proposed components of the Project. No portion of the Project site is located within an area with a fire hazard risk. The California Public Utilities Commission (CPUC) High Fire Threat District (HFTD) map additionally indicates that none of the Project site is within an HFTD (CPUC 2021).

Wood Treatment Products

There are 78 distribution poles along the PG&E Project alignment. Wooden distribution poles could be treated with chemicals such as pentachlorophenol, creosote, and chromated copper arsenate. Typically, these chemicals are applied to utility wood poles during manufacturing to protect wood from rotting due to insects and microbial agents. These chemicals, for certain quantities, are considered hazardous materials, which require specific handling and disposal protocol prescribed by state and federal hazardous materials regulations (see Section 3.10.1.3, *Regulatory Setting*, for information about the laws governing hazardous materials). Additionally, the base of the treated wood poles may be wrapped with copper naphthenate paper, also known as CuNap wrap. This paper has been accepted as a wood preservative for several decades and has been employed in non-pressure treatments of wood and other products. Copper naphthenate is a

common preservative and its use has increased recently in response to environmental concerns associated with other wood treatment products.

Photovoltaic Solar Panels

Photovoltaic solar panels used as part of the Rosemary Project would be composed of crystalline silica. Crystalline silica dust, a byproduct of crystalline silica, is classified as a known human carcinogen by the International Agency for Research on Cancer. High exposure to crystalline silica dust shows increased risk of developing lung cancer, obstructive pulmonary disease, rheumatoid arthritis, scleroderma, Sjogren's syndrome, lupus, and renal disease. However, because solar panels are encased in heavy-duty glass or plastic, there is little risk that the small amounts of semiconductor material present can be released into the environment. In the event of a fire, it is theoretically possible for hazardous fumes to be released, and inhalation of these fumes could pose a risk to human health (DOT, n.d.).

3.10.1.3 Regulatory Setting

Federal

The primary federal agencies with responsibility for hazards and hazardous materials management include the U.S. Environmental Protection Agency (EPA), U.S. Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). Federal laws, regulations, and responsible agencies related to hazardous materials and hazards management are summarized in **Table 3.10-1**, *Relevant Federal Laws and Regulations Related to Hazards and Hazardous Materials*.

TABLE 3.10-1
RELEVANT FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDS AND HAZARDOUS MATERIALS

Classification	Federal Law or Responsible Federal Agency	Description
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
	Toxic Substances Control Act (TSCA)	Code of Federal Regulation (CFR) Title 40 Chapter 1, Subchapter R – Toxic Substances Control Act – Part 761 Polychlorinated Biphenyls (PCBs) – covers the identification and sampling requirements for PCBs for disposal purposes.
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Materials Transportation	U.S. Department of Transportation (DOT)	DOT has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 CFR Parts 100-185).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).

Classification	Federal Law or Responsible Federal Agency	Description
Structural and Building Components (Hazardous Building Materials [asbestos-containing materials, lead-based paint, polychlorinated biphenyls (PCBs])	Toxic Substances Control Act	Regulates the use and management of hazardous building materials and sets forth detailed safeguards to be followed during the disposal of such items.
	EPA	The EPA monitors and regulates hazardous materials used in structural and building components and their effects on human health.
Federal Regulation 49 CFR Part 77, Objects Affecting Navigable Airspace	Federal Aviation Administration (FAA)	Proximity to airports triggers the application of Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace, which sets forth criteria and requirements for proposed structures to be filed with the FAA for airspace safety review. Title 14, Part 77 of the CFR states that FAA notification is necessary for construction projects greater than 200 feet in height or those located within 20,000 feet of a public use airport that exceed a 100-to-1 surface ratio from any point on an airport's longest runway measuring more than 3,200 feet. The FAA review determines whether the proposed structures would constitute an obstruction or hazard to aircraft.
Pesticides and Herbicides	Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 et seq. (1996)	FIFRA provides for federal regulation of pesticide distribution, sale, and use (*pesticides* includes any herbicide, insecticide, rodenticide, algaecide, fungicide, or any combination of substances intended to prevent, destroy, or repel any pest). All pesticides distributed or sold in the United States must be registered (licensed) by the EPA. Before EPA may register a pesticide under FIFRA, the applicant must show, among other things, that using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." FIFRA defines the term *unreasonable adverse effects on the environment* to mean: "(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under Section 408 of the Federal Food, Drug, and Cosmetic Act." Training is required for workers in pesticide-treated areas and certification and training for applicators of restricted use pesticides.

State

The primary state agencies with responsibility for hazardous materials management in the region include the DTSC and the San Francisco Bay Regional Water Quality Control Board (RWQCB) within the California Environmental Protection Agency (CalEPA), California Occupational Safety and Health Administration (Cal/OSHA), California Department of Public Health, California Highway Patrol (CHP), and the California Department of Transportation (Caltrans). State laws, regulations, and responsible agencies related to hazardous materials management are summarized in **Table 3.10-2**, *Relevant State Laws and Regulations Related to Hazards and Hazardous Materials*.

California Public Utilities Commission General Orders and Related Codes

California Public Utilities Commission General Order 95—Overhead Electric Line Construction

General Order 95 includes rules and other requirements for overhead line design, construction, and maintenance, the proper application of which would ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation, or use of overhead lines and to the public in general.

TABLE 3.10-2
RELEVANT STATE LAWS AND REGULATIONS RELATED TO HAZARDS AND HAZARDOUS MATERIALS

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program); Health and Safety Code Section 25404 et seq.	Cal EPA adopted regulations in January 1996 that implemented the Unified Program at the local level. The agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA). For the Project area, the Fresno County HazMat Compliance Program is the designated CUPA.
	California Fire Code, Title 24, Chapter 9, California Code of Regulations and California Building Code, Part 2	The California Fire Code regulates the storage and handling of hazardous materials, including the requirement for secondary containment, separation of incompatible materials, and preparation of spill response procedures.
Hazardous Waste Handling	California Hazardous Materials Release Response Plan and Inventory Law of 1985	The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials on-site prepare a Hazardous Materials Business Plan (HMBP) and submit it to the applicable local CUPA.
	California Hazardous Waste Control Act; California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100, et seq.; DTSC	Under the California Hazardous Waste Control Act, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act. California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, provides for the investigation and remediation of hazardous substances pursuant to state law. In addition, Health and Safety Code Section 25180 authorizes the DTSC or the local CUPA or the RWQCB to require responsible parties to cleanup spills and releases.
Hazardous Materials Transportation	Titles 13, 22, and 26 of the California Code of Regulations	Regulates the transportation of hazardous waste originating in and passing through the state, including requirements for shipping, containers, and labeling.
	CHP and Caltrans, California Vehicle Code, Chapter 5, Sections 31303–31309	CHP and Caltrans share responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies.
Occupational Safety	Cal/OSHA regulations (Title 8 Cal. Code Regs)	Cal/OSHA has 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 that are at least as stringent as those found in Title 29 of the CFR. Cal/OSHA standards are generally more stringent than federal regulations. Requires employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.
Construction Storm Water General Permit (Construction General Permit; Order 2022-0057-DWQ, NPDES No. CAS000002)	San Francisco Bay RWQCB	Dischargers whose project disturbs 1 or more acres of soil or where projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 of more acres, are required to obtain coverage under the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Order 2022-0057-DWQ, NPDES No. CAS000002). Construction activity subject to this permit includes clearing, grading, grubbing, and other disturbances to the ground such as excavation and stockpiling but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes

Classification	Law or Responsible State Agency	Description
		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.
Underground Infrastructure	California Code of Regulations Section 4216-4216.9	Sections 4216-4216.9, "Protection of Underground Infrastructure," requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for Southern California. Underground Service Alert will notify 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 prior to the start of project activities in the area.

California Public Utilities Commission General Order 166—Standards for Operation, Reliability, and Safety During Emergencies and Disasters

The purpose of the standards contained in CPUC General Order 166 is to help ensure that jurisdictional electric utilities are prepared for emergencies and disasters in order to minimize damage and inconvenience to the public which may occur as a result of electric system failures, major outages, or hazards posed by damage to electric distribution facilities. The standards require that each publicly traded electric utility prepare an emergency response plan and update the plan annually, conduct annual emergency training and exercises using the utilities emergency response plan, and coordinate emergency plans with state and local public safety agencies.

California Public Utilities Commission General Order 167 – Battery Energy Storage Systems

General Order 167 establishes standards governing the maintenance and operation of ESSs and oversight of the emergency response action plans for the facilities. General Order 167 applies to all ESSs in the state. Among other things, General Order 167 requires ESS facilities to comply with maintenance standards and operation standards that consist of high-level principles that must be incorporated into plans to demonstrate the facility has a comprehensive safety program in place.

California Public Utilities Commission Fire Safety Rulemaking Background

In October 2007, devastating wildfires driven by strong Santa Ana winds burned hundreds of square miles in Southern California. Several of the worst wildfires were reportedly ignited by overhead utility power lines and aerial communication facilities in close proximity to power lines. In response to these wildfires, the CPUC initiated Rulemaking (R.) 08-11-005 to consider and adopt regulations to protect the public from potential fire hazards associated with overhead powerline facilities and nearby aerial communication facilities.

Beginning in 2009, the CPUC issued several decisions in R.08-11-005 that together adopted dozens of new fire-safety regulations. Most of the adopted fire-safety regulations consisted of new or revised rules in General Order 95. Several of the adopted fire-safety regulations apply only to areas, referred to as

"high fire-threat areas," where there is an elevated risk for power line fires to ignite and spread rapidly. These high fire-threat areas are designated by several maps that were adopted on an interim basis. Each of the interim maps cover a different part of the state and uses its own methodology for identifying high fire-threat areas, presenting consistency and potential enforcement issues. To address these issues, the CPUC also commenced the development of a single statewide fire-threat map to designate areas where (1) there is an elevated risk for destructive power line fires, and (2) stricter fire-safety regulations should apply.

In May 2015, the CPUC closed R.08-11-005 and initiated successor rulemaking R.15-05-006 to complete the outstanding tasks in R.08-11-005. The general scope of R.15-05-006 was to address the following matters carried over from the scope of R.08-11-005:

(1) Develop and adopt a statewide fire-threat map that delineates the boundaries of a new HFTD where the previously adopted regulations would apply.

(2) Determine the need for additional fire-safety regulations in the HFTD.

(3) Revise General Order 95 to include a definition and maps of the HFTD, as well as any new fire-safety regulations.

The scope and schedule for R.15-05-006 was divided into two parallel tracks. One track focused on the development and adoption of a statewide fire-threat map. The second track focused on the identification, evaluation, and adoption of fire-safety regulations in the HFTD.

On December 21, 2017, the CPUC issued Decision (D.) 17-12-024 adopting regulations to enhance fire safety in the HFTD, effectively completing the second track of R.15-05-006 described above. On January 19, 2018, the CPUC adopted, via Safety and Enforcement Division's (SED) disposition of a Tier 1 Advice Letter, the final CPUC Fire-Threat Map. The adopted CPUC Fire-Threat Map, together with the map of Tier 1 High Hazard Zones on the U.S. Forest Service-CAL FIRE joint map of tree mortality High Hazard Zones, comprise the HFTD Map where stricter fire-safety regulations apply.

California Fire Code

The California Fire Code is contained within Title 24, Chapter 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 (CBC) use a hazards classification system to determine the appropriate measures to incorporate to protect life and property. The California Fire Code (CFC), Chapter 12, where applicable, requires an energy storage management system that monitors and balances cell voltages, currents and temperatures. The system must transmit an alarm signal if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage, are detected. The CFC also requires the use of appropriate fire detection and fire suppression systems.

Public Resources Code Sections 4201–4204

Public Resources Code Sections 4201–4202 require:

- The classification of lands within state responsibility areas in accordance with the severity of fire hazard present for the purpose of identifying measures to be taken to retard the rate of spreading and to reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property.

- The classification of lands within state responsibility areas into fire hazard severity zones. Each zone shall embrace relatively homogeneous lands and shall be based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified by the department as a major cause of wildfire spread.
- The designation of fire hazard severity zones and assignation to each zone a rating reflecting the degree of severity of fire hazard that is expected to prevail in the zone.
- The periodic review of zones designated and rated pursuant to this article and, as necessary, the revision of zones or their ratings or repeal the designation of zones.

Public Resources Code Sections 4292 and 4293

Public Resources Code Section 4292 requires a 10-foot clearance of any tree branches or ground vegetation from around the base of power poles carrying more than 110 kV. The firebreak clearances required by Public Resources Code Section 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead end or corner pole. Section 4293 presents guidelines for line clearance including a minimum of 10 feet of vegetation clearance from any conductor operating at 110 kV or higher.

Regional and Local

Fresno County General Plan

Planning for growth and development requires the consideration of a wide range of public safety issues. Some safety hazards are naturally induced, such as seismic and geologic hazards, flooding, and wildland fire hazards. Some hazards are the result of natural hazards that are exacerbated by human activity and alteration of the natural environment, such as dam failure and development in sensitive areas such as floodplains or areas subject to erosion and landslides. Finally, some hazards are human-made, including airport crash hazards, hazardous materials, and crime. In addition to safety issues related to hazardous conditions, the planning process should account for other issues related to community health and safety, such as noise exposure. The following goals and policies of the Fresno County General Plan (Fresno County 2024) related to hazards and hazardous materials 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.5: Minimize Fire Hazard Risk.*** The County shall require that new development be designed to maximize safety and minimize fire hazard risks to life and property.
> >
> > ***Policy PF-H.10: California Fire Code.*** The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the California Fire Code and other State and local ordinances.
> >
> > ***Policy OS-G.11: Sensitive Receptors.*** The County shall continue, through its land use planning processes, to avoid inappropriate location of residential uses and sensitive receptors in relation to uses that include, but are not limited to, industrial and manufacturing uses and any other uses which have the potential for creating a hazardous or nuisance effect.

Goal HS-A: To protect public health and safety by preparing for, responding to, and recovering from the effects of natural or technological disasters

Policy HS-A.1: Operational Area Master Emergency Service Plan. The County shall, through the Fresno County Operational Area Master Emergency Services Plan and the Fresno County Multi-Hazard Mitigation Plan, maintain the capability to effectively respond to emergency incidents, including maintenance of an emergency operations center.

Policy HS-A.2: Multi-Jurisdictional Hazard Mitigation Plan. In coordination with cities, special districts, and other State and Federal agencies, the County shall maintain the Fresno County Multi-Jurisdictional Hazard Mitigation Plan to identify and mitigate, to the extent feasible, natural and human-made hazards within the county.

Policy HS-A.4: Critical Emergency Response Facility Siting. The County shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, sheriff's offices and substations, dispatch centers, emergency operations centers, and other emergency service facilities and utilities are sited and designed to minimize their exposure and susceptibility to flooding, seismic and geological effects, fire, landslides, avalanche, and explosions as required by State regulations. This includes locating new essential public facilities outside of Very High Fire Hazard Severity Zones, if feasible. Exception to this policy shall be allowed on the condition that the only alternative location would be so distant as to jeopardize the safety of the community, given that precautions are taken to protect the facility.

Policy HS-A.6: Emergency Preparedness Public Awareness Programs. The County shall support local fire agencies through distribution of information during the permit process, through links on County websites, and by providing assistance at public meetings, in promoting the education of County residents concerning emergency preparedness, defensible space, and safety, as described in the Fresno-King Unit Fire-Plan information and public education outreach programs, focusing on the most vulnerable at-risk communities such as those in the Very High Fire Hazard Severity Zone.

Policy HS-A.12: Access/Evacuation Routes: Establish minimum standards for evacuation, including in the Very High Fire Hazard Severity areas, in the Emergency Operations Plan and continuously reassess access and evacuation route capacity and put mitigation measures and improvement plans in place if needed

Goal HS-B: To minimize the risk of loss of life, injury, and damage to property and natural resources resulting from fire hazards.

Policy HS-B.1: Fire Hazards Review. 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.2: Minimize Fire Hazard Risk Design. The County shall ensure that development in high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards by increasing resistance of structures to heat, flames, and embers. The County shall review current building code standards and other applicable statutes, regulations, requirements, and guidelines regarding construction, and specifically the use and maintenance of non-flammable materials (both residential and commercial) and consider adopting amendments to Title 15 of the County Ordinance Code (Building and Construction) to implement appropriate standards. Special consideration shall be given to the use of fire-resistant construction in the underside of eaves, balconies, unenclosed roofs and floors, and other similar horizontal surfaces in areas of steep slopes.

Policy HS-B.4: Fire Risk Management. The County shall require that new discretionary development including residential subdivisions and large commercial proposals in high-fire-hazard areas have fire-resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and fuel management program. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas.

Policy HS-B.5: Landscape Features. In consultation with the local fire agency and CalFire, the County shall require structures to be sited to maximize low-flammability landscape features to buffer against wildfire spread. Consultation with the local fire agency will be necessary to make this determination.

Policy HS-B.20: Route Capacity, Safety and Visibility. As part of the next update to the Fresno County Multi-Hazard Mitigation Plan, the County, working with emergency service agencies, shall evaluate evacuation route capacity, safety, and viability under a range of emergency scenarios to facilitate fire, law enforcement, and ambulance access and resident egress, consistent with the existing goals and objective of the Fresno County Multi-Hazard Mitigation Plan.

Policy HS-B.21: Fuel Loads on Federal Lands. The County shall collaborate with federal agencies to better manage fuel loads and hazards that could impact County owned/operated infrastructure on federally owned or managed lands.

Policy HS-B.30: Hazard Mitigation Plan. The County shall, if necessary, revise the Health and Safety Element upon each revision of the Housing Element or Fresno County Multi-Hazard Mitigation Plan, but not less than once every eight years, to identify new information relating to flood and fire hazards and climate adaptation and resiliency strategies applicable to the county.

Goal HS-E: To minimize the exposure of the public to high noise levels and safety hazards through land use controls and policies for property in the vicinity of airports; and to limit urban encroachment around airports in order to preserve the safety of flight operations and the continued viability of airport facilities.

Policy HS-E.1: Airport Land Use Policy Plans. The County shall limit land uses in airport safety zones to those uses listed in the applicable CLUPPs [comprehensive land use policy plans] as compatible uses. Exceptions shall be made only as provided for in the CLUPPs. Such uses shall also be regulated to ensure compatibility in terms of location, height, and noise.

Policy HS-E.2: Airport Safety Hazards. The County shall ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards.

Policy HS-E.3: Federal Airport Safety Zones. The County shall ensure that development, including public infrastructure projects, within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (Objects Affecting Navigable Airspace).

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: Hazardous Materials Facilities. 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.2: Hazardous Waste Applications. The County shall require that applications for discretionary development projects that will use hazardous materials or generate hazardous waste in large quantities include detailed information concerning hazardous waste reduction, recycling, and storage.

Policy HS-F.3: Hazardous Materials Incident Response Plan. 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: Soil and Groundwater Contamination Reports. 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.

Policy HS-F.5: Demolition Standards. The County shall require that demolition of structures where friable asbestos or other hazardous materials could be released into the environment comply with applicable regulations and standards.

Policy HS-F.6: Timely Site Cleanup. The County shall work cooperatively with the State Department of Toxic Substances Control and Regional Water Quality Control Board to promote the timely and efficient cleanup of contaminated sites under the regulatory oversight of these agencies.

Fresno County Solar Facility Guidelines

The County has established solar facility guidelines for applicants desiring to construct and operate such facilities in Fresno County (Fresno County 2017). The guidelines specify the information that applicants must provide during the application review process. The required information includes descriptions of the proposed project, the site's agricultural history, the water supply source, the site's legal status (e.g., Williamson Act contracts, easements, and liens), buffers with adjacent land uses, pest management plans, and reclamation plans for decommissioning the facility.

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 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area; or

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

g) 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 also addressed in Section 3.20, *Wildfire*.

3.10.3 Direct and Indirect Effects

3.10.3.1 Applicant-Proposed Measures and Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.5, *Emergency Action Plan*, could reduce potential impacts of the Rosemary Project on hazards and hazardous materials.

Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.6, *Temporary Traffic Controls*, and Section 2.6.7.7, *Other Construction Measures and Practices*, could reduce potential PG&E Project impacts on hazards and hazardous materials.

3.10.3.2 Methodology

This environmental analysis of the potential impacts related to hazards and hazardous materials of the Project is based on a review of the results of the site-specific investigations, a review of literature and database research, and review of the Fresno County General Plan.

The Project would be regulated by the various laws, regulations, and policies summarized above in Section 3.10.1.10, *Regulatory Setting*. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

A significant impact would occur if, after considering the features described in Chapter 2, *Project Description*, and the required compliance with regulatory requirements, the Project would cause a change in the physical environment that could exceed a threshold of significance. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

3.10.3.3 Direct and Indirect Effects of the Project

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.

Impact 3.10-1: The Rosemary 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*)

The Rosemary Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during the approximately 18 months of construction, 40 years of operation and maintenance (O&M), and 12 months of decommissioning activities. During these periods, equipment and materials would include fuels and oils, paints and thinners, cleaners and solvents, spent oil, hydraulic fluid, concrete, herbicides, and household batteries, which are all commonly used in construction. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment.

Construction, O&M, and decommissioning activities would be required to comply with numerous hazardous materials regulations described in Section 3.10.1.10, *Regulatory Setting,* designed to help ensure that hazardous materials would be transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies. Contractors would be required to prepare and implement Hazardous Materials Business Plans (HMBPs) if hazardous materials were stored in quantities of more than 55 gallons (liquid), 500 pounds (solid), or 200 cubic feet (gas). Hazardous materials used for construction would be used properly and stored in appropriate containers with secondary containment to contain a potential release. The California Fire Code would also require measures for the safe storage and handling of hazardous materials. Other measures contained within the required Stormwater Pollution Prevention Plan (SWPPP), Spill Prevention, Control, and Countermeasure Plan (SPCC), and in accordance with applicable regulations. Further discussion of BMP requirements is provided in Section 3.11 Hydrology and Water Quality, of this EIR.

The application of herbicides and other pest control activities may be applied to on-site soils during site preparation. The use of herbicides would be regulated by a County-approved pest management plan, a draft of which is provided in **Appendix B2**. Safety data sheets for all applicable materials present at the site would be made readily available to on-site personnel. The use of herbicides would be in accordance with manufacturers' specifications.

The Rosemary Project would involve the routine transport, use, or disposal of hazardous materials, as defined by the Hazardous Materials Transport Uniform Safety Act in construction, O&M, and decommissioning. The majority of the materials used and waste generated would occur during construction. Most of the waste would be non-hazardous and would consist primarily of concrete, wood, brick, glass, plastics, and scrap metal. Most construction waste would be disposed of at a non-hazardous landfill or at a recycling facility, whenever feasible. Based on comparable information from similar Fresno County projects, construction of the Rosemary Project is expected to generate an average of approximately

27 cubic yards of non-hazardous solid waste per week over the period of construction. Sanitary waste would be managed using portable toilets and hauled for off-site disposal. Hazardous waste (e.g., spent oils, hydraulic fluids, solvents, thinners, and household batteries; unused paints or herbicides) would be recycled or disposed of as hazardous waste at a disposal facility permitted to accept the waste.

O&M activities associated with the solar facility would require relatively minor use of hazardous materials (e.g., office cleaning supplies). Hazardous materials that would be stored on-site would be contained in designated areas. Adherence to the HMBP as required by the California Hazardous Materials Release Response Plans and Inventory law (Health and Safety Code Section 25500 et seq.) would help ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to workers or the public. Solar panel cleaning would occur as needed, using water. The site would be fenced to prevent public access to hazardous materials.

The anticipated operational term for the Rosemary Project is 40 years, and at the end of that term, decommissioning would occur. The site would be restored in accordance with the provisions of the applicable County-approved reclamation plan. The PV solar panels and the ESS battery cell modules, which could be hazardous if not disposed of properly, would be recycled at a facility permitted to accept the materials. Belowground infrastructure would be removed to a depth of 36 inches below ground surface. The decommissioned facility infrastructure would be dismantled and removed from the site for recycling or disposal in compliance with federal, state, and local regulations, and the site would be restored to a condition suitable to support a return to pre-project agricultural use. See **Appendix B1** for additional information about the proposed reclamation activities.

With compliance with existing regulations, the Rosemary Project would result in a **less-than-significant impact** related to the creation of a potential significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, as well as the prevention and handling of any accidental hazardous materials exposure.

Mitigation: None required.

Impact 3.10-2: The PG&E 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 for the PG&E Project would involve the assessment of 78 existing poles and the existing 70 kV conductor and, if necessary, also would involve the replacement or upgrade of existing structures and conductor wires, as well as minor upgrades within the boundaries of the existing substation facilities. This process would involve the use of fuels and oils, paints and thinners, cleaners and solvents, spent oil, hydraulic fluid, concrete, herbicides, and household batteries, which are all commonly used in construction. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. With compliance with existing regulations, and PG&E standard measures, such as maintenance and refueling requirements and hazardous materials spill training and cleanup requirements, PG&E Project construction would result in a **less-than-significant impact** related to the creation of a potential significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, as well as the prevention and handling of any accidental hazardous materials exposure.

Mitigation: None required.

During operation and maintenance of the PG&E Project, the transport, use, and disposal of hazardous materials would occur the same as they do during pre-Project conditions. Because there would be no change to O&M as a result of the PG&E Project, operation and maintenance would cause **no impact** relating to the creation of any significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. PG&E also would comply with existing regulations and PG&E standard measures during O&M activities.

Mitigation: None required.

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.

Impact 3.10-3: The Rosemary Solar Facilities would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Less-than-Significant Impact*)

As discussed in Impact 3.10-1, the Rosemary Project would involve the use, transportation, and disposal of hazardous materials and wastes. The Project would comply with all applicable local, state, and federal requirements.

Accidental spills resulting from construction activities are typically small, localized, and cleaned up in a timely manner. Construction contractors are contractually responsible for their hazardous materials and are required under their contracts to store and dispose of these materials properly in compliance with federal and state laws, including through implementation of a HMBP for hazardous materials stored in quantities greater than 55 gallons (liquid), 500 pounds (solid), or 200 cubic feet (gas). In the unlikely event of a spill, the HMBP would include appropriate measures to help 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, the Project would be subject to the protections included in a stormwater pollution prevention plan (SWPPP), which would contain the potential release and 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 help ensure that accidental spills would not adversely affect construction workers or the environment. Compliance with applicable federal, state, and local requirements would help ensure that the Project would not create a significant hazard to the public through the accidental release of hazardous materials.

The Rosemary Project site is undeveloped and has not been irrigated for more than 20 years. However, previous land uses could have included the use of pesticides, which could pose a hazard if concentrated in soils on-site, disturbed by Project activities, and the contaminated dust thereafter is inhaled or ingested. Rosemary Project construction, however, would comply with all applicable San Joaquin Valley Air

Pollution Control District rules and regulations, including Regulation VIII (Fugitive Dust Rules), which would minimize dust levels and further reduce impacts from fugitive dust that may contain pesticides.

O&M activities associated with the solar facility would require relatively minor use of hazardous materials (e.g., lubricants or cleaning supplies). Equipment containing hazardous materials would be equipped with spill containment areas and any hazardous materials that would be stored on-site would be contained in designated areas in accordance with a HMBP. Adherence to the HMBP as required by the California Hazardous Materials Release Response Plans and Inventory law (Health and Safety Code Section 25500 et seq.) would help ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to workers or the public. Solar panel cleaning would occur as needed, using demineralized water. The site would be fenced to prevent public access to hazardous materials.

Project solar panels would likely include crystalline silicon. Solar panel production generates a byproduct, crystalline silica dust, which is classified as a known human carcinogen by the International Agency for Research on Cancer. However, because solar panels are encased in heavy-duty glass or plastic, there is little risk that the small amounts of semiconductor material present can be released into the environment. The PV modules used for the Rosemary Project would conform to testing standards set by the International Electrotechnical Commission. These testing standards include International Electrotechnical Commission 61215: Standards for crystalline silicon terrestrial PV modules (JinkoSolar 2024). In addition, the PV modules also conform to Underwriters Laboratory 1703, a standard established by the independent product safety certification organization. In accordance with Underwriters Laboratory 1703, the PV modules undergo rigorous accelerated life testing under a variety of conditions to demonstrate safe construction and to monitor their performance (JinkoSolar 2024).

As discussed in Appendix B2, *Pest Management Plan*, herbicides may be transported to the Project site for use during operations to control vegetation. These materials would be stored in appropriate containers to prevent accidental release. Equipment containing hazardous materials would be equipped with spill containment areas, and battery storage would be in accordance with U.S. Occupational Safety and Health Administration requirements such as inclusion of heating, ventilation, air conditioning, fire protection systems, and spill response supplies. Operation and maintenance of the Rosemary Project would be subject to the requirements of a comprehensive Spill Prevention, Control, and Countermeasure Plan, prepared in accordance with all applicable local, state, and federal regulations. The preparation and implementation of requisite plans describing proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would further reduce impacts related to hazards.

The closure, decommissioning, and site restoration process is summarized above. Many components of the solar facility and energy storage system are recyclable with numerous recyclers for the various materials to be used on the Rosemary Project site located in Fresno and other nearby counties. Most panel materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. The disposal of batteries may be considered hazardous waste when they are discarded and will be disposed of in accordance with the applicable hazardous waste requirements.

With compliance with all applicable federal, state, and local regulations, construction, O&M, and decommissioning of the Rosemary Solar Facilities would have a **less-than-significant impact** related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Mitigation: None required.

Impact 3.10-4: The Rosemary Project Battery Energy Storage System would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Less-than-Significant Impact*)

Battery fires are rare but do occur and can have serious consequences for the public and the environment. According to the California Energy Commission, there have been multiple major ESS safety incidents in the last five years, including a January 2025 ESS facility fire in Moss Landing that resulted in the evacuation of more than 1,500 local residents and closure of Highway 1. The fire burned for at least six days. ESS fires occurred at two facilities in San Diego County in 2024 – one in Otay Mesa, the other in Escondido; and a different Moss Landing ESS facility caught fire in 2022. ESSs are used across the United States in residential, commercial, and utility-scale applications.

The proposed ESS modules could use any of a variety of commercially available battery technologies (lithium ion, sodium sulfur, sodium hydride, or nickel hydride) and would be enclosed by modular metal structures. Lithium-ion batteries, sodium-sulfur, sodium hydride, and nickel hydride, found in ESSs, can produce significant amounts of flammable gases with potential risk of deflagration and fire when compromised. Battery ESSs most often use multiple lithium-ion battery cells. In large storage systems and under certain conditions (such as proximity to other cells), failure of one lithium cell can cascade to include hundreds of individual cells. Lithium batteries can produce hazardous outcomes through multiple avenues of abuse, neglect, or environmental impacts. Lithium cells can experience *thermal runaway*, or uncontrolled overheating, that can cause them to release very hot, flammable, toxic gases; catch fire; or explode. The EPA conducted air, water and soil sampling following the January 2025 Moss Landing fire, testing for the toxins that typically come from large lithium-ion fires, principally including high levels of hot particulates in the smoke and hydrogen fluoride gas. According to the EPA, monitoring showed concentrations of particulate matter to be consistent with the air quality index throughout the Monterey Bay and San Francisco Bay regions, with no measurements exceeding the moderate air quality level. Hydrogen fluoride gas was measured at one second intervals and there were no exceedances of California's human health standards (EPA 2025). Several agencies also conducted soil and water sampling, the results of which indicated that all concentrations of metals were below their respective regulatory Maximum Contaminant Levels (MCLs) and Public Health Goals (PHGs), consistent with historical water quality data for each system. Further, volatile organic compounds were non-detect, except for trace levels of disinfection by-products, which are expected in chlorinated systems and were present at very low concentrations. Asbestos was not detected in any samples, and lithium levels detected were lower than those measured in wells serving the nearby Vistra water system, suggesting the presence of naturally occurring lithium in the local groundwater. Finally, soil sampling concluded that the metal concentrations found in the soil samples do not pose a health risk to the public (Monterey County 2025).

Additionally, following a battery fire that occurred in Escondido, California, in 2024, San Diego County Hazmat conducted air monitoring over a four-hour period during the incident and found that "only normal products [of] combustion of a structure fire were detected and at levels considered by NIOSH and OSHA to be well below exposure thresholds" (Escondido 2024). Air monitoring conducted by a third-party contractor (Haley & Aldrich) also was initiated during the incident and continued for an additional 12 hours after the fire was fully extinguished: "At no time during the incident did the levels of oxygen deviate from 20.9 percent which is considered normal atmospheric level. Any decrease in the percentage of oxygen would indicate that there was some unknown gas in the atmosphere that was not able to be detected by monitoring equipment" (Escondido 2024). No such deviation was detected. ESS fires involving the burning of lithium-ion batteries (which contain materials that can release hydrogen fluoride gas when they decompose at high temperatures) can result in emissions of hydrofluoric acid in the atmosphere. Based on a concern that elevated atmospheric levels of hydrofluoric acid can signify a potential hazard to human health and the environment due to the highly toxic and corrosive nature of the gas, San Diego County Hazmat and Haley & Aldrich tested for it following the Escondido ESS fire. Hydrofluoric acid was not detected at any of the sampling locations (Escondido 2024). Responding to potential public health concerns about drinking water, runoff water samples were assessed for the presence of 17 toxic metals including lead and cadmium. Although presence of six of the 17 metals was detected, concentrations were well below EPA drinking water standards, supporting a determination that the runoff posed "minimal risk to both human health and the environment" (California Energy Storage Alliance 2024).

Experts agree that safe siting of ESS facilities is fundamental to reducing the potential risk that a facility could create a significant hazard to the public or the environment through reasonably foreseeable upset or accident condition involving the release of hazardous materials into the environment. Following two ESS fires that occurred in 2024, the County of San Diego prepared a *Battery Energy Storage Systems Best Practices Report* that recommended, among other things, that ESS projects be placed at a safe distance from nearby property lines, which it defined as either 50 feet or 20 feet, depending on the specifics of the project (San Diego County 2024). [,]).Other siting considerations include maintaining a 10-foot area surrounding the ESS (i.e., a buffer area) clear of combustible vegetation.

Other best practices include following Fire Safety Codes, including safety recommendations from the National Fire Protection Association (NFPA) and standards in the California Fire Code (CFC), and the installation of hazard detection and fire suppression systems (San Diego County 2024). As discussed above and in Section 2.5.2, *Battery Energy Storage System,* ESSs are equipped with several advanced containment and safety features to help ensure reliability and safety. These systems typically include robust thermal management solutions to prevent overheating and thermal runaway. They are also designed with fire safety systems, often including smoke, heat, or gas detection systems that automatically shut down the system and notify the fire department. Additionally, ESS systems feature advanced battery management systems that continuously monitor the strength and performance of each cell, providing real-time diagnostics and ensuring cells operate within safe parameters. Enclosure units are built to be fire-resistant and are often designed to vent gases safely in case of cell failure. In addition, for the Rosemary Project, an emergency response plan would be completed and implemented in accordance with existing state regulations (Health and Safety Code Section 25504[b]; California Code of Regulations Title 19, Section 2731 [19 Cal. Code Regs. Section 2731]; 22 Cal. Code Regs. Section 66262.34[a][4]; Public Utilities Code Section 761.3). See Section 2.5.9.5 *Emergency Response Plan*, in Chapter 2, *Project*

Description, for additional details. 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. These features, combined with stringent safety protocols and regular maintenance, contribute to the high safety standards of today's ESS systems. Incidents involving wildfire or fire management are discussed in **Impact 3.10-6** below and in Section 3.20, *Wildfire*.

With compliance with all applicable federal, state, and local regulations, construction, O&M, and decommissioning of the ESS as part of the Rosemary Project would have a **less-than-significant impact** related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Mitigation: None required.

Impact 3.10-5: The PG&E Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Less-than-Significant Impact*)

As discussed in Impact 3.10-2, the PG&E Project would involve the use, transportation, and disposal of hazardous materials and wastes. The Project would comply with all applicable local, state, and federal requirements and related PG&E Standard Practices.

Accidental spills resulting from construction activities are typically small, localized, and cleaned up in a timely manner. Construction contractors are contractually responsible for their hazardous materials and are required under their contracts to store and dispose of these materials properly in compliance with federal and state laws, including through implementation of a HMBP. In the unlikely event of a spill, the HMBP would include appropriate measures to help 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, the PG&E Project would be subject to the protections included in a SWPPP (for disturbances over one acre), which would contain the potential release and 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, as well as PG&E's best management practices addressing construction equipment and spill cleanup, would help ensure that accidental spills would not adversely affect construction workers or the environment.

As discussed in Section 3.10.1.7 *Wood Treatment Products*, it is possible that the poles that would be replaced in the PG&E Project may be treated with chemicals such as pentachlorophenol, creosote, or chromated copper arsenate. These chemicals are considered hazardous materials, which require specific handling and disposal protocols described in 3.9.2 R*egulatory Setting.*

Furthermore, PG&E would implement standards that would help ensure that emergency spill response and cleanup kits would be readily available for immediate containment and cleanup of an accidental spill, construction crews would be trained in safe handling of hazardous materials and cleanup responsibilities, and any spills into aquatic habitat would be reported to the County and Regional Water Quality Control Board or Department of Toxic Substance Control within 24 hours.

Compliance with applicable federal, state, and local requirements and implementation of the PG&E's Standard Practices would help ensure that the PG&E Project would not create a significant hazard to the public through the accidental release of hazardous materials during construction. O&M for the PG&E Project would be the same as it was before the Project, so there would be no change to O&M as a result of this Project. PG&E also would comply with existing regulations and PG&E standard measures during O&M activities. For these reasons, the PG&E Project would have a **less-than-significant impact** related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Mitigation: None required.

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.

The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (*No Impact*)

As stated in Section 3.10.1.10, *Regulatory Setting*, the nearest school to the Project site would be Golden Plains Unified School District, which is 1.25 miles northwest of the PG&E Project site and approximately 5 miles from the Rosemary Project site. Therefore, there would be **no impact** for the PG&E Project and Rosemary Project.

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.

The Project would not be located on a site which is included on list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment. (*No Impact*)

The Project would not be within 0.25 miles of a hazardous material site. A review of the GeoTracker and EnviroStor databases determined that there are no active leaking underground storage tank sites or Cleanup Program sites, or any open cases within 0.25 mile of the PG&E Project site or the Rosemary Project site. Therefore, there would be **no impact** for the PG&E Project and Rosemary Project.

Criterion e) Whether the Project would be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would result in a safety hazard or excessive noise for people residing or working in the Project area.

The Project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would result in a safety hazard or excessive noise for people residing or working in the Project area. (*No Impact*)

As discussed in Section 3.10.1.4, *Proximity to Airports*, the PG&E Helm Substation, which is the nearest portion of the Project to an airport, is approximately 2.25 miles from San Joaquin Airport. The Rosemary Project site is approximately 5 miles from the airport. Neither Project site would be located within an airport land use plan. Therefore, there would be **no impact** for the PG&E Project and Rosemary Project.

Criterion f) Whether the Project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Impact 3.10-6: Implementation of the Rosemary Project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

The construction activities for the Rosemary Project would use Kamm Avenue. Road closures or restrictions could physically impair the passage of emergency response or evacuation traffic through the work areas in the event of an emergency. However, for the reasons explained below, this would not result in a significant adverse impact.

The Rosemary Project site is located adjacent to West Kamm Avenue. There are no planned road closures as part of the Rosemary Project's construction, O&M, or decommissioning. The Project site would be accessible, including to emergency vehicles, from West Kamm Avenue, which is the only paved public road adjacent to the Rosemary Project. Three entrances would be available to the site. Site access points would comply with requirements set forth by CAL FIRE or the Fresno County Fire Protection District to help ensure adequate emergency access. Additionally, road improvements as required by the Fresno County Road Maintenance and Operations Division would be implemented prior to the initiation of O&M activities. All designated access roads would provide sufficient space for emergency response vehicles. There are no pre-designated evacuation routes established by Fresno County, however, additional traffic during the construction or decommissioning phases may affect West Kamm Avenue, which could impact potential evacuation routes in an emergency. However, emergency vehicles would be able to adequately bypass Project traffic through the multiple ingress/egress points available to the site. Therefore, emergency access would be maintained through all Rosemary Project phases, and the impact would be **less than significant**. See Section 3.18, *Transportation* for further analysis of transportation related environmental impacts.

Mitigation: None required.

Impact 3.10-7: Implementation of the PG&E Project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

The construction activities for the PG&E Project would cross over a number of roads, including Huntsman Avenue, Floral Avenue, Nebraska Avenue, and Kamm Avenue. Road closures or restrictions could physically impair the passage of emergency response or evacuation traffic by through the work areas in the event of an emergency. However, for the reasons explained below, this would not result in a significant adverse impact.

As discussed in Section 2.6.7, *PG&E-Proposed Standard Practices and Measures*, PG&E would implement the proposed reconductoring in accordance with all applicable PG&E-Proposed Standard Practices and Measures, including minimizing impacts to emergency response or evacuation traffic that may need to pass through the reconducting project area in the event of an emergency. As discussed in Section 2.6.1, *Replacement Corridor*, and Section 2.6.7.6, *Temporary Traffic Controls*, PG&E would obtain any applicable transportation and/or encroachment permits, including for the transport of any oversized loads and certain materials, and would comply with permit requirements designed to prevent excessive congestion or traffic hazards during lane closures. PG&E would develop lane closure/ width reduction or traffic diversion plans if/as required by the encroachment permits. Road closures or rolling stops would be arranged before the start of conductor installation at any location where lines cross over roads. Road closures typically would not exceed a few minutes in duration and would be coordinated with the County or the landowner. Alternatively, guard structures may be installed at road crossings in lieu of road closures. These guard structures are typically structures installed on each side of the road with nets extending between each side and over the road, or aerial lift trucks with H-frame guards mounted on the booms. Compliance with encroachment and/or transportation permits would enable emergency vehicles to adequately bypass traffic through the work areas. Further, minor substation upgrades would not require road closures or interfere with emergency access. Therefore, emergency access would be maintained, and the impact would be **less than significant**. See Section 3.18, *Transportation*, for further analysis of transportation related environmental impacts.

There would not be any changes to O&M from existing (baseline) conditions. PG&E would continue to implement necessary measures as part of its operation and maintenance of the existing Helm–Crescent 70 kV electric transmission line and substations after the Project is implemented in the same way it does under existing conditions. Therefore, there would be **no impact** once reconductoring is complete.

Mitigation: None required.

Criterion g) Whether the Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Impact 3.10-8: Implementation of the Rosemary Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. (*Less-than-Significant Impact*)

As discussed in Section 3.10.1.5, *Environmental Setting*, the Rosemary Project site is not located in a Fire Hazard Severity Zone State Responsibility Area with the nearest Fire Severity Zone being approximately 12 miles southwest of the Rosemary Project site. Rosemary Project construction and decommissioning would involve the use of graders, dozers, compaction equipment, and other vehicles and equipment that have the potential to ignite fires. Operation of the ESS and transmission lines also have the potential to ignite fires.

The Applicant proposes to construct, operate, and decommission the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction. The plan would be completed in consultation with the fire department and energy storage system supplier, and would include defined roles and responsibilities and training for

local first responders and in accordance with existing state regulations (Health and Safety Code Section 25504[b]; 19 Cal. Code Regs. Section 5030.9; Public Utilities Code Section 761.3).

Project design measures to decrease the risk of fire include maintaining and improving site accessibility to emergency vehicles. Site access points would comply with requirements set forth by CAL FIRE or the Fresno County Fire Protection District to help ensure adequate emergency access. During Rosemary Project O&M, water would be required for emergency fire suppression (stored in tanks on-site). Water required for emergency fire suppression purposes would be stored on-site for use as needed; the storage tanks would have a total capacity of up to 50,000 gallons.

To mitigate potential hazards of the operation of the battery ESS, methods of failure detection would be implemented. As described in 2.5.2 *Battery Energy Storage System,* the containers would be equipped with temperature control (heating, ventilating, and air conditioning [HVAC]) equipment, appropriate fire safety systems, and one or more emergency backup generators to power the HVAC system in the event of primary power loss. Furthermore, Section 2.5.9.5 describes how the Applicant proposes to construct and operate the battery ESS in accordance with all applicable statutes, regulations, and other requirements.

The Rosemary Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. The Rosemary Project would be constructed, operated and decommissioned in accordance with all applicable policies, develop an emergency action plan, and mitigate risk of the battery ESS with fire prevention and suppression strategies. Therefore, there would be a **less-than-significant impact**.

Mitigation: None required.

Impact 3.10-9: Implementation of the PG&E Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. (*Less-than-Significant Impact*)

As discussed in Section 3.10.1.5, *Environmental Setting*, the PG&E Project site is not located in a Fire Hazard Severity Zone State Responsibility Area with the nearest Fire Severity Zone being approximately 12 miles southwest of the PG&E Project site. Reconductoring would involve the use of graders, dozers, compaction equipment, and other vehicles and equipment that have the potential to ignite fires. Each of these must have a spark arrestor to minimize fire risk. Fire prevention measures would be enforced, such as smoking being permitted only in designated smoking areas and open fires (such as barbecues) being prohibited. Operation of the transmission lines also has the potential to ignite fires. However, PG&E lines would be subject to various state regulations addressing transmission line safety, such as maintaining clearance requirements consistent with CPUC General Order 95.

PG&E would follow its standard fire risk management procedures, which include safe work practices, work permit programs, training, and fire response. Project personnel would be directed to park away from dry vegetation and during fire season, motorized equipment that drive off paved or maintained roads would have federal- or state-approved spark arrestors. Furthermore, all off-road vehicles would be equipped with a shovel and a backpack pump filled with water and all fuel trucks would carry a large fire extinguisher with a minimum rating of 40 B:C.

One reconductoring is complete, there would be no change from existing (baseline) conditions. PG&E would continue to implement the same precautionary measures as part of its O&M procedures for the Helm–Crescent 70 kV electric transmission line and existing substations as it currently does.

For these reasons, the PG&E Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. The PG&E Project would be constructed and operated in accordance with all applicable policies and PG&E standard fire risk management procedures. Therefore, there would be a **less-than-significant impact**.

Mitigation: None required.

3.10.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.10-3***, Summary of Project Impacts on Hazards and Hazardous Materials*, summarizes the impacts of the Project as a whole on hazards and hazardous materials.

TABLE 3.10-3
SUMMARY OF PROJECT IMPACTS ON HAZARDS AND HAZARDOUS MATERIALS

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

3.10.4 Cumulative Effects

As analyzed in the context of criteria c), d), and e) in Section 3.10.3.3, *Direct and Indirect Effects of the Project*, the Project site is not located within 0.25 miles of a school, located within 2 miles of an airport,

or located on a site which is included on a list of hazardous materials sites and so would have no impact regarding criteria c), d), and e). Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any significant cumulative effects contemplated by criteria c), d), and e). (*No Impact*)

Impact 3.10-10: The Project would not cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials. (*Less-than-Significant Impact*)

This section presents an analysis of the cumulative effects of the Project (including the Rosemary Project and the PG&E Project) in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts. Significant cumulative effects related to hazards and hazardous materials could occur if the incremental impacts of the Project, in combination with the incremental impacts of one or more other projects, could exceed a threshold of significance.

Hazardous materials events could "combine" for this purpose only if the Project and at least one other project caused a hazardous materials release in the same relevant geography and with overlapping timing. The geographic area affected by the Project and its potential to contribute to cumulative effects varies based on the environmental resource under consideration. The geographic scope of analysis for cumulative hazards and hazardous materials impacts encompasses and is limited to the Project site and its immediately adjacent area. This is because impacts relative to hazards and hazardous materials are generally site-specific and depend on the nature and extent of the hazardous materials release, and 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, and could only be cumulative if two or more hazardous materials releases spatially overlapped. The Rosemary Project could contribute to cumulative hazards and hazardous materials effects over the project's 40 year lifespan. The timeframe for the PG&E Project could contribute to cumulative hazards and hazardous materials effects would be limited to the period of time when reconductoring activities are occurring, given the limited scope of O&M activities that would follow construction.

The past, other present, and reasonably foreseeable future projects considered in this EIR are summarized in Section 3.1.3, *Cumulative Effects Approach*. Of them, only one project exists within 2 miles of the Project site (the maximum study area distance for this hazards and hazardous materials section due to proximity to airports): the San Joaquin Solar project, which is located approximately 1 mile to the east. The San Joaquin facility has been operational since 2018. Given the similarity in project type between the proposed Rosemary project and the San Joaquin Solar project (except that the San Joaquin Solar facility does not have a battery ESS), it is reasonable to assume that the nature of potential hazards and the use, storage, and disposal of comparable quantities hazardous materials would be similar. Communitywide compliance with the hazardous materials regulatory requirements detailed in Section 3.10.1.3, *Regulatory Setting*, would be independently enforceable and would help ensure not only that the storage, use, and disposal of hazardous materials and waste would occur within accepted standards of care, but also that the potential for adverse health effects related to hazardous materials and waste would be minimized. Therefore, the Rosemary Project's and the PG&E Project's cumulative effects would be **less than significant**.

Impact 3.10-11: The Project would not cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

As discussed in Section 3.10.3.3, *Direct and Indirect Effects of the Project*, the Project (including both the Rosemary Project and the PG&E Project) is not proposed within an area with a designated evacuation plan. The Project would coordinate with local law enforcement and emergency service responders during an emergency and during any temporary lane closures as needed. Incremental effects from the Project could combine with the incremental impacts of other projects identified in Section 3.1.3, *Cumulative Effects Approach*, and could cause traffic congestion of the streets that would be used for Project activities. See Section 3.18, *Transportation*, for more information on potential traffic and transportation implications. Other projects in the vicinity, such as the San Joaquin Solar Project, Stroud Solar Station, and Scarlet Solar Project, could contribute vehicles and incremental hazards to the same general road network as the Rosemary Project. However, the San Joaquin Solar Project is the only project in the cumulative scenario that is within 1 mile of the Project site; and has been operational since 2018. Thus, the local network of paved and unpaved roads, as well as the undeveloped, flat topography of the Project area, provides multiple options for emergency and other vehicles to get to and past the Project site in the event an emergency response or evacuation is necessary. Therefore, the Project's incremental, less-than-significant impact when combined with the incremental impacts of other cumulative projects would not cause or contribute to a significant cumulative effect, and the Rosemary Project and PG&E Project would have a **less-than-significant** cumulative effect.

Impact 3.10-12: The Project would not cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. (*Less-than-Significant Impact*)

The Project (including both the Rosemary Project and the PG&E Project) would be situated on flat terrain in a sparsely populated area. The proposed facilities would be designed and constructed in a manner adhering to independently enforceable requirements established to minimize risk to human health, safety, and the environment. Other projects identified in Section 3.1.3 that could contribute to ignition sources include the solar projects referred to in Impact 3.20-1c, power lines, and other energy infrastructure, homes, and operating vehicles in the study area. Compliance with applicable laws and regulations, including those outlined in Section 3.20.1.3, *Wildfire Regulatory Setting,* would manage ignition sources.

Given the topography of the area, the predominant fire hazard can be reasonably assumed to be construction-related ignition risks. This would involve the use of vehicles and equipment, which could ignite dry vegetation and result in a fire. However, these construction-related activities would be subject to existing regulations and best practices that would minimize the potential for ignition, which also would apply to each cumulative project. In addition, both the Project and the other energy storage and generation-related projects in the Project area all abide by local fire codes and regulations, including the 2022 California Fire Code, which requires battery ESSs and the equipment used for grid connection to adhere to Underwriters Laboratories standard UL 9540. The Rosemary Project would also include water tanks onsite (up to approximately 50,000 gallons) that could be used for fire suppression, if needed, during O&M. Further, combustible vegetation or agricultural products on and around active construction areas associated with the Rosemary Project would be actively managed during construction to minimize fire risk. Thus, the Project (including the Rosemary Project and PG&E Project) would not cause or

contribute to a significant cumulative effect on wildfire risk to the region and the impact would be **less than significant**.

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3.11 Hydrology and Water Quality

This section identifies and evaluates issues related to hydrology and water quality. The 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. During the scoping period that occurred for the Project, the County received input from Westlands Water District (WWD) regarding potential water supply allocations for Project use. Copies of scoping comments received are included in **Appendix A**, *Scoping Report*.

This analysis is based in part on a Project-specific Water Supply Assessment (WSA) prepared for the Rosemary Project (**Appendix J**, *Water Supply Assessment*). The preparers of this Draft EIR independently reviewed the WSA 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 the EIR.

3.11.1 Setting

3.11.1.1 Study Area

The study area for consideration of hydrology and water quality includes the Arroyo Hondo–Fresno Slough and neighboring Cantua Creek Fresno Slough watersheds where the Project would be located within. The Rosemary Project site and surrounding land are within a relatively flat plain of Fresno Valley and exhibit little topographic variation.

3.11.1.2 Environmental Setting

Regional Setting and Climate

The Project site (including the proposed Rosemary Project site and the PG&E Project site) is in the San Joaquin Valley, bounded by the Sacramento–San Joaquin Delta to the north, the Sierra Nevada range and the Temblor Range to the east, the Tehachapi Mountains to the south, and the Tumey and Panoche Hills (part of the Coast Ranges) to the west. 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 (DWR 2006). Between 1946 and 2016, average annual precipitation in the Project vicinity was 8 inches. Daily weather temperatures range from 57 to 96 degrees Fahrenheit (°F) in the summer, and 36°F to 64°F in the winter (WWD 2023).

Surface Hydrology

The Project site is within the Arroyo Hondo–Fresno Slough and the Cantua Creek Fresno Slough watersheds, both of which are within the larger Upper Dry watershed. The northern portion of the San Joaquin Valley drains toward the San Joaquin Delta by way of the San Joaquin River and its tributaries. These tributaries include the Fresno, Merced, Tuolumne, and Stanislaus Rivers that flow into the Tulare drainage basin encompassing the dry lakebeds of the former Tulare, Buena Vista, and Kern Lakes.
A series of human-constructed canals, laterals, and irrigation ditches were developed to transport surface waters to the Fresno Plains. Major human-constructed surface water features in the Project vicinity include the Governor Edmund G. Brown California Aqueduct, approximately 6.7 miles southwest of the Project site. The California Aqueduct was developed and is maintained by the California Department of

Water Resources (DWR) to deliver water from the Sacramento–San Joaquin River Delta to Southern California. The Crescent Ditch is located immediately east of the Project site and flows in the southeast direction. Fresno Slough is approximately 1.6 miles northeast; and Lower Kings River is 10 miles southeast of the Project site.

The Rosemary Project site where the solar array would be located is flat with no surface water features. Drainage on site is generally to the east. The PG&E Project alignment would pass over natural drainages of Fresno Slough and run adjacent to the (human constructed) Cresent Canal.

Water Quality

As discussed further in Section 3.11.1.3, the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) identifies existing and potential beneficial uses supported by the surface water drainages (including Fresno Slough among others) and groundwater basins throughout the jurisdictional planning area of the Central Valley Regional Water Quality Control Board. Fresno Slough is listed on the Clean Water Act 303(d) list[1] for toxicity and chlorpyrifos, sources unknown (total maximum daily load [TMDL]-required list). A TMDL has not been completed for either of these water pollutants affecting the Basin Plan-designated beneficial uses of warm freshwater habitat. The expected TMDL completion date for toxicity is 2027 (State Water Board 2024).

Groundwater

The Rosemary Project site is at the eastern edge of the Westside Subbasin of the San Joaquin Valley Groundwater Basin. This subbasin is comprised primarily of Quaternary and Tertiary-aged unconsolidated sediments. One of the principal geological features of the San Joaquin Valley is the Corcoran Clay formation. Formed within an ancient lakebed about 600,000 years ago, this clay layer ranges in thickness from 20 to 200 feet and underlies most of the study area. At varying depths from 200 to 500 feet in the valley through to 850 feet along the Diablo Range, the Corcoran Clay divides the groundwater system into two major aquifers: an upper and lower aquifer. Most of the groundwater of the lower aquifer is of the sodium sulfate type, and the difference in quality between the upper and lower aquifers is that the lower aquifer contains less dissolved solids (DWR 2006). 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 source of recharge is from infiltration of surface water from streams located along the eastern front of the Coast Ranges and from deep percolation of agricultural irrigation water. Groundwater quality in the subbasin contains sulfates or bicarbonates. Waters of the upper aquifer are generally high in calcium and magnesium sulfate. The source of groundwater recharge can influence groundwater quality. Drainage from agricultural lands contributes to high concentrations of trace elements and salts present in Fresno Valley groundwater.

The Rosemary Project site is located predominantly in the San Joaquin Valley Groundwater Basin–Westside Groundwater Subbasin (DWR Basin 5-22-09), which extends approximately 972 square miles in western Fresno and Kings County). DWR has identified the Westside Subbasin as one in critical condition of overdraft and a high priority groundwater subbasin within the context of the Sustainable Groundwater Management Act (SGMA), discussed further in Section 3.11.1.3, *Regulatory Setting* (DWR

[1] More information about Section 303 of the Federal Clean Water Act and the 303(d) list is provided in Draft EIR Section 3.11.1.3, *Regulatory Setting*.

2025b). A review of DWR well completion report records shows that there are three wells within the Rosemary Project site. Depth to groundwater for these wells ranges from 130 to 350 feet below ground surface(DWR 2025a).

The PG&E Project facilities (including the Crescent Switching Station, the Helm Substation, and the approximately 5-linear-mile long Helm–Crescent 70 kV electric transmission line) and a small, eastern portion of the Project site would be within the adjacent Kings Subbasin of the San Joaquin Valley Groundwater Basin. The PG&E Project sites are located in the Kings Subbasin (DWR Basin 5-022-08) of the San Joaquin Valley Groundwater Basin, which covers an area of approximately 1,530 square miles (DWR 2006b). DWR also has also identified the Kings Subbasin as critically overdrafted. The subbasin is considered a high-priority groundwater subbasin within the context of SGMA (DWR 2025b). Depth to groundwater along the PG&E Project alignment ranges from approximately 57 to 95 feet below ground surface (DWR 2025a).

Water Supply

Water supply sources under the jurisdiction of WWD consist principally of groundwater extracted from the San Joaquin Valley Westside Groundwater Basin. Secondary source supplies include surface water from federal (U.S. Bureau of Reclamation) and state (Central Valley Project and State Water Project) sources, local surface water, and imported transfers into the WWD service area (Appendix J).

Flooding

The Federal Emergency Management Agency (FEMA) is responsible for mapping areas subject to flooding during a 100-year flood event (i.e., 1 percent chance of occurring in a given year). According to the FEMA Flood Insurance Rate Map (FIRM), the eastern half of the Rosemary Project site is in "Zone X" defined as areas determined to be outside the 0.2 percent annual chance flood zone with minimal flood hazards. The western portions of the Rosemary Project site (including the generation tie[gen-tie] line route and the southwestern portion of the Project site) would be within a special flood hazard area subject to inundation by the 1 percent annual chance flood (100-year flood zone, FEMA Zone A). Portions of the adjacent PG&E Project site include the interconnection to the Crescent Switching Station and two segments of the reconductoring route (just north of Kamm Avenue and north of Fresno Slough) would also be located in the 100-year flood zone, within FEMA Zone A (FEMA 2009). **Appendix H**, Figure 3 depicts the flood zones in the context of the Project site and vicinity.

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 in the coastal zone and there are no large water bodies in the vicinity. Therefore, neither the Rosemary Project nor the PG&E Project would be located on lands subject to tsunami or seiche hazards.

3.11.1.3 Regulatory Setting

Federal

Federal Clean Water Act

The Clean Water Act of 1977 is administered by the U.S. Environmental Protection Agency (EPA) to restore and maintain the chemical, physical, and biological integrity to the nation's waters by overseeing compliance with water quality regulations. The Act provides the legal framework for various water quality regulations including the National Pollutant Discharge and Elimination System (NPDES), water quality standards, anti-degradation policy, non-point source discharge programs, and wetlands protection, among others. EPA has delegated responsibility for implementation of portions of the Act, including water quality control planning and programs in California, to the State Water Resources Control Board (State Water Board) and the nine regional boards. Water quality standards applicable on and near the Project site are noted in the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan), as discussed further below.

National Pollutant Discharge Elimination System

The NPDES permit system was established in the Clean Water Act to regulate municipal and industrial point discharges to surface waters of the United States. Each NPDES permit for point discharges contains limits on allowable concentrations of pollutants contained in discharges. Section 402 of the Act contains general requirements regarding NPDES permits.

The Clean Water Act was amended in 1987 to require NPDES permits for non-point source (i.e., stormwater) pollutants in discharges. Stormwater sources are diffuse and originate over a wide area rather than from a definable point. The goal of NPDES stormwater regulations is to improve the quality of stormwater discharged to receiving waters to the "maximum extent practicable" through the use of structural and non-structural best management practices (BMPs). BMPs can include the development and implementation of various practices, including educational measures (workshops informing the public of what impacts results when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures, and structural measures (filter strips, grass swales, and detention ponds). The Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES Construction General Permit, as discussed further in *State Regulations*.

Clean Water Act Section 303 and the 303(d) List

Clean Water Act Section 303(d) authorizes the EPA to assist states, territories, and authorized Tribes in identifying waters that do not meet applicable water quality standards. Under Section 303(d), states are required to establish a priority ranking for such waters, taking into account the severity of the water pollution and their uses. Commonly referred to as the 303(d) list, the states list impaired waters and develop total maximum daily loads for water bodies, subject to EPA approval. Total maximum daily loads establish the maximum amount of a pollutant allowed in a water body; this serves as the basis or planning tool for restoring its water quality (EPA 2025).

Federal Emergency Management Agency National Flood Insurance Program

Under Executive Order 11988, the Federal Emergency Management Agency (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 overall mission is to support citizens and first responders to help 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 regulations associated with flood prevention, mitigation, and response. Under Executive Order 11988, FEMA requires that local governments covered by the federal flood insurance program pass 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 (Code of Federal Regulations Title 40, Part 60). 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 (FEMA 2025).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code 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 regional water quality control boards. 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 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 federal Clean Water Act's NPDES program, the Porter-Cologne Water Quality Control Act also delegates authority to the RWQCBs to issue discharge permits.

Water Quality Control Plan for the Tulare Lake Basin – Beneficial Uses and Water Quality Objectives

The Project site is located within the jurisdiction of the Central Valley RWQCB, which is tasked with implementing the adopted Basin Plan through planning, permitting, and enforcement of established water quality objectives. In accordance with State Policy for Water Quality Control, the Central Valley RWQCB 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. The Basin Plan has identified existing and potential beneficial uses supported by the key surface water drainages and groundwater basins throughout its jurisdictional planning area. Beneficial uses identified for Fresno Slough include commercial or recreational collection of fish, shellfish, or organisms; and warm freshwater habitat (State Water Board 2024). The beneficial uses for the Westside groundwater basin include municipal and domestic supply, agricultural supply, and industrial service supply uses (Central Valley RWQCB 2018).

State Water Quality Control Policy for Siting, Design, Operation, and Maintenance of On-site Wastewater Treatment Systems

In 2023, the State Water Board updated its policy for siting, design, operation, and maintenance of On-site Wastewater Treatment Systems (OWTS Policy) to establish a statewide, risk-based, tiered approach for the regulation and management of on-site wastewater treatment systems to protect beneficial uses of waters of the state and prevent or correct conditions of pollution and nuisance. The OWTS Policy conditionally waives waste discharge requirements that would otherwise be required to discharge pollutants, in accordance with Water Code Section 13269. Because a septic system is proposed to be installed as part of the Rosemary Project, the OWTS Policy would be applicable.

As discussed in more detail in the local regulatory setting section below, Fresno County would be the local agency with permit authority under the Local Agency Management Program (LAMP) established by the OWTS Policy (Fresno County 2019). The Rosemary Project's proposed septic system would be required to adhere to minimum standards, including those establishing setbacks to wells and waterways, among other water quality considerations.

Construction Stormwater General Permit

The 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 Stormwater General Permit*, is required for projects that propose to disturb 1 or more acres of soil during construction activities. 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 permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP) that includes specific BMPs designed to prevent sediment and pollutants from discharging into off-site 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 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 implement 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 Section 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 permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

Water Code 10910 (Senate Bill 610) Water Supply Assessment

Senate Bill 610, codified in Chapter 643, Statutes of 200, amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by counties and cities in California. The statute requires detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The statute also requires detailed information to be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects. Among the "project types" subject to water supply assessment requirements are those that would occupy more than 40 acres or demand an amount of water equivalent to or greater than the amount of water required for a 500 dwelling unit project. The water supply assessment for a given project must include a discussion of whether the total projected water supplies, determined to be available for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

Sustainable Groundwater Management Act

The SGMA of 2014 is codified in Section 10720 of the state Water Code. SGMA establishes a working framework for sustainable management of groundwater in California that must be achieved during the planning and implementation horizon (from 2020 to 2040) and sustained into the future without causing undesirable results.[2] SGMA requires local agencies to form groundwater sustainability agencies (GSAs) for high and medium priority groundwater basins. GSAs develop and implement groundwater sustainability plans (GSPs) or alternatives to avoid undesirable results and correct conditions of overdraft within 20 years. DWR provides regulatory oversight through the evaluation of the GSPs and provides assistance to the GSAs.

Local

Westlands Water District Groundwater Sustainability Agency

Westside Subbasin Groundwater Sustainability Plan

As discussed in the *Environmental Setting*, the Rosemary Project site is located predominantly in the San Joaquin Valley Groundwater Basin–Westside Groundwater Subbasin (DWR Basin 5-22-09), which is in critical condition of overdraft and a high priority groundwater subbasin within the context of SGMA (DWR 2025a).

The groundwater sustainability goal in the Westside Subbasin GSP is to help ensure that by 2040, and through the planning and implementation period of the subbasin's GSP (through 2070), the subbasin is operated within its sustainable yield and does not exhibit undesirable results. Management actions and projects to achieve this goal include surface water imports, initial allocation of groundwater extraction, aquifer storage and recovery, targeted pumping reductions, and percolation basins (Appendix J). WWD acting as GSA aims to manage groundwater resources responsibly and sustainably to maintain acceptable standards of groundwater levels, groundwater quality, groundwater storage, and subsidence (WWD 2022).

[2] In the context of SGMA, *undesirable results* is defined as any combination of the following: chronic lowering of groundwater levels; reduction of groundwater storage; seawater intrusion; land subsidence; water quality degradation; or depletions of interconnected surface water.

North Fork Kings Groundwater Sustainability Agency

North Fork Kings GSA Groundwater Sustainability Plan

As discussed in Section 3.11.1.2, *Environmental Setting*, the PG&E Project site and a small portion of the Rosemary Project site is located in the Kings subbasin (DWR Basin 5-022-08) of the San Joaquin Valley Groundwater Basin, which is considered a high-priority groundwater subbasin within the context of SGMA (DWR 2025b). The North Fork Kings GSA is one of seven GSAs within the Kings Subbasin, located in the southwest portion of the subbasin. The sustainability goal for the Kings Subbasin is to help ensure that by 2040, the basin is being managed to maintain a reliable water supply for current and future beneficial uses without experiencing undesirable results. The condition of the subbasin will be considered sustainable when the basin is continuously operated within its sustainable yield; the current rate of decline of the groundwater table within the basin monitoring network indicator wells has been corrected and the multi-year trend of water elevations in these wells has been stabilized; and groundwater management activities prevent undesirable results to groundwater levels, groundwater quality, land subsidence, and interconnected surface water (North Fork Kings GSA 2025).

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, Water Conservation.** Pertains to water conservation to conserve and properly utilize the limited available water supplies of the county by preventing the unreasonable use of county water supplies and regulates the use of water services and facilities.
- **Chapter 14.03, Groundwater Management.** Pertains to groundwater management by establishing a policy prohibiting the direct or indirect transfer of groundwater outside of Fresno County and protecting the county's groundwater resources.
- **Chapter 14.04, Well Regulations–General Provisions.** 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 Local Area Management Program

The Fresno County Planning Department oversees the design, installation, and operation of OWTS, including management of non-discharging liquid waste systems, and dispersal standards to protect water quality and limit nuisance conditions in the county. OWTS must meet capacity requirements and soil design application rates. Additionally, to prevent the contamination of surface and groundwater, siting and design standards for septic tanks and dispersal systems (i.e., leach fields) are in effect under the LAMP, consistent with state water quality requirements. Effective LAMP construction and building standards for OWTS specify minimum setbacks or buffers to provide adequate distance to wells and springs, public water supply lines, surface waters (such as ponds and streams), buildings, structures, property lines, and easements. With limited exceptions, dispersal systems must also be located outside of flood hazard areas (Fresno County 2019).

Fresno County 2024 General Plan

Water related policies are included in the Public Facilities and Services, Open Space and Conservation elements of the Fresno County General Plan (Fresno County 2024).

Public Facilities and Services Element

Policy PF-E.9 100-year Flood Protection: The County shall require new development to provide protection from the 100-year flood as a minimum.

Policy PF-E.11 Natural Site Drainage Pattern: The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.

Policy PF-E.13 Natural Storm Water Drainage Systems: The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.

Policy PF-E.14 Retention-Recharge Basins: 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.15 Basin Landscaping and Open Space: The County should require that retention-recharge basins be suitably landscaped to complement adjacent areas and should, wherever possible, be made available to the community to augment open space and recreation needs.

Policy PF-E.16 Minimal Sedimentation and Erosion: 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 PF-E.17 Groundwater Recharge: The County shall encourage the local agencies responsible for flood control or storm drainage retention-recharge basins located in soil strata strongly conducive to groundwater recharge to develop and operate those basins in such a way as to facilitate year-round groundwater recharge.

Policy PF-E.20 Storm Water Drainage Discharges: The County shall require new development of facilities near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in flood waters, flowing rivers, streams, creeks, or reservoir waters.

Policy PF-E.21 Best Management Practices: 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.

Open Space and Conservation Element

Policy OS-A.5 Groundwater Recharge: The County shall encourage, where economically, environmentally, and technically feasible, efforts aimed at directly or indirectly recharging the county's groundwater.

Policy OS-A.6 Groundwater Recharge Protection: The County shall ensure that development does not limit the capacity or function of groundwater recharge areas.

Policy OS-A.10 Sustainable Groundwater Management: The County shall coordinate with the relevant Groundwater Sustainability Agency(ies) concerning their Groundwater Sustainability Plan(s) and refer any substantial proposed General Plan amendment to the agency for review and comment prior to adoption. The County shall give consideration to the adopted groundwater sustainability plan when determining the adequacy of water supply.

Policy OS-A.14 Floodplain Protection: 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.18 Groundwater Quality Protection: The County shall protect groundwater resources from contamination and overdraft by pursuing the following efforts:

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.19 Water Discharge Pollution: The County shall require new development near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in storm waters, flowing river, stream, creek, or reservoir waters.

Policy OS-A.20 Minimization of Sedimentation and Erosion: 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.21 Best Management Practices: 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.22 Water Quality Monitoring: The County shall support the monitoring of water quality and necessary measures to prevent contamination, including the prevention of hazardous materials from entering the wastewater system.

Policy OS-A.24 Low Risk for Groundwater Degradation: In areas with increased potential for groundwater degradation (e.g., areas with prime percolation capabilities, coarse soils, and/or shallow groundwater), the County shall only approve land uses with low risk of degrading groundwater.

Policy OS-D.3 Adjacent Wetland Protection: 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

A project would result in a significant impact to hydrology or 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 that 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 that 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.

   iv. Impede or redirect flood flows.

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

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

3.11.3 Direct and Indirect Effects

3.11.3.1 Applicant-Proposed Measures and Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.2, *Erosion and Sediment Control Measures*, could reduce potential Rosemary Project impacts on hydrology and water quality.

Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.7, *Other Construction Measures and Practices*, include litter and trash management, maintenance and refueling requirements, protocols for hazardous materials spills, and erosion control materials standards that could help reduce potential Project impacts on hydrology and water quality.

3.11.3.2 Methodology

The Project (including the Rosemary Project and the PG&E Project) would be regulated by the various laws, regulations, and policies summarized in Section 3.11.1.3, *Regulatory Setting*. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

3.11.3.3 Direct and Indirect Effects of the Project

Criterion a) Whether the Project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Impact 3.2-1: The Rosemary Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (*Less-than-Significant Impact*)

As discussed, the Rosemary Project would be located in the Tulare Lake Basin in central Fresno Valley, under the water quality jurisdiction of the Central Valley RWQCB. 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

As described in Section 2.5.6, *Rosemary Project Construction*, of Chapter 2, *Project Description*, various activities would occur that have the potential to degrade surface or groundwater quality. The Project site is relatively flat, with very little potential for any concentrated runoff to occur. This condition would not substantially change with Project construction, which would include vegetation removal, site preparation, grading, and installation of roads and other facilities. Construction activities would involve the use of tractors, loaders, backhoes, graders, rollers, trucks, and various other types of heavy equipment, and would entail compaction of soil or other changes to on-site topography. These activities could generate dust and loosen existing surface soils and sediments, increasing the potential for erosion during wind or storm events. Additionally, the use of such construction equipment may involve the accidental release of fuel, oils, brake dust, lubricants, antifreeze, and other potentially hazardous substances at the construction site. Spills and leakage of these substances, if deposited onto the soil surface, could become mobilized as pollutants through runoff during a storm event. Construction measures and practices including those related to maintenance and refueling requirements and protocols for hazardous materials spills would be implemented to minimize adverse impacts to water quality. A Spill Prevention Control and Countermeasure (SPCC) plan would be implemented to prevent oil spills and other hazardous materials from being released and potentially conveyed to surface waters. See Section 3.10, *Hazards and Hazardous Materials*, for a discussion of these substances along with the regulatory controls that would reduce the potential for their release.

Site preparation could include application of pre-emergent herbicides, which would be applied in accordance with applicable regulations and by a state-licensed pesticide applicator. It is estimated that 120,000 gallons of water per year would be required for herbicide application across the Rosemary Project site. A draft of the pest management plan detailing such activities is provided in **Appendix B2**. Further, application of water for dust suppression could generate runoff that may entrain and transport pollutants (e.g., silt, sediment, dissolved solids). These water quality pollutants could also be delivered to surface water bodies during storm events, and/or be infiltrated into groundwater and the underlying aquifer, resulting in the degradation of water quality.

Potential impacts on water quality associated with erosion or sedimentation are expected to be localized and temporary during construction and decommissioning. Stormwater retention basins would generally be

constructed along the south side of the Rosemary Project site to manage stormwater. As explained in Section 3.11.1.3, *Regulatory Setting*, the Project would be subject to compliance with the NPDES Construction Stormwater General Permit. The Construction Stormwater General Permit would include development and implementation of a SWPPP. The objectives of a SWPPP are to minimize discharge of sediment and other pollutants that may affect the quality of stormwater and to protect the water quality of receiving waters. The SWPPP would include site-specific BMPs, such as strategically placed silt fences and straw wattles to prevent conditions of erosion and stormwater runoff. In addition to the SWPPP, as described in Section 2.5.9.2, *Erosion and Sediment Control Measures*, erosion prevention measures would include the separation of topsoil during construction and stockpiling and stabilizing it separately from subsoil. When construction is complete, the stripped subsoil and topsoil would be replaced as required. Other erosion and sediment control measures proposed by the Applicant include watering for dust control and implementation of a revegetation plan (consistent with the description provided in **Appendix F1**, *Biological Resources Technical Report*) to counteract temporary disturbance from construction activities.

Therefore, with implementation of the General Construction Permit conditions, including the preparation and implementation of a SWPPP, SPCC, and associated BMPs, the impact on water quality would be temporary and **less than significant**.

Operation and Maintenance

Operation and maintenance activities associated with the Rosemary Project would include as-needed solar panel repairs; equipment repairs; panel washing two to three times per year; maintenance of transformers, inverters, and other electrical equipment; and road and fence repairs. These tasks would not generate a substantial amount of site disturbance, compared to construction. Water would be used at the Rosemary Project site for panel washing (to increase optical transmittance), to aid in dust control, for herbicide application, fire suppression, and other operation and maintenance (O&M) activities. Based on information provided in the WSA (Appendix J), the annual water consumption for facility operations, including periodic PV panel washing, dust control and the O&M building uses would be 6.3 acre-feet per year (AFY) for the anticipated 40-year duration of the Rosemary Project. The relatively small amount of water used during this phase would not generate significant runoff. Wash water not lost to evaporation would ultimately infiltrate through the ground, including permeable areas that allow for water infiltration. Permeable areas function as biofiltration/water quality treatment as water filters through the underlying soil and ground. The Rosemary Project site is not within an urban area subject to NPDES municipal stormwater discharge requirements; however, stormwater retention basins would capture and manage stormwater runoff during the O&M phase. Pesticide or herbicide application, if used on vegetation, would be properly applied according to California Department of Pesticide regulations and in conformance with manufacturers guidelines, which would limit residual toxicity to surface water and groundwater. Because the Rosemary Project site is predominantly flat, the periodic application of water to the panels would not be likely to result in conditions of runoff. Adherence to regulatory requirements, such as the post construction standards under the Construction General Permit would help ensure that the impacts associated with water quality would be **less than significant**.

Decommissioning and Site Reclamation

Potential impacts resulting from decommissioning and site reclamation activities would generally be similar to those described for construction, namely involving the potential for erosion and/or release of construction-related sediment and other pollutants. Decommissioning and site reclamation activities would be required to comply with the same applicable federal, state, and local water quality regulations. Ground-disturbing activities during decommissioning and site reclamation would require coverage under the Construction Stormwater General Permit, including the preparation and implementation of the required SWPPP. Stormwater management measures would be required to be identified and implemented to effectively control erosion and sedimentation and other construction-related pollutants during decommissioning and site reclamation. Therefore, the potential impact of Rosemary Project decommissioning activities on water quality would be temporary and **less than significant**.

Mitigation: None required.

Impact 3.11-2: The PG&E Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (*Less-than-Significant Impact*)

The PG&E Project would entail ground disturbances with the potential to generate runoff during construction. As described in Section 2.6, *Description of the PG&E Project*, in Chapter 2, *Project Description*, large equipment (such as graders, bulldozers, cranes, trucks, and trailers) would be needed for the reconductoring, although use of this equipment would be limited. It is likely that a grader or bulldozers would be used for site grading and excavation to facilitate shaping and soil compaction for work sites and pull areas necessary to support the required equipment and tensioning activities.

The construction and replacement of tubular steel poles and light-duty steel poles is likely to require concrete foundations, which would be poured at the designated sites. As discussed, following concrete delivery, concrete truck chutes and hoppers would be cleaned of any remaining residue before it hardens. It is likely that self-washing concrete trucks with mobile containment would be used to deliver concrete to the work sites. Alternatively, portable washing stations may be established at various locations throughout the PG&E Project alignment to minimize time between the concrete pour and truck clean-out. These stations would include dike walls and tarping, allowing wash water to be contained and transported to an appropriate facility for proper disposal. As designed, the PG&E Project would adhere to regulatory requirements, including those as part of the Construction General Permit and SWPPP (as applicable), which would limit the release of sediment and other pollutants. If wetlands or waters of the U.S. would be crossed or otherwise affected by the PG&E Project, permits would be secured for these activities, as noted in Table 2-3 and described in Section 3.5, *Biological Resources*. It is anticipated that the Crescent Ditch, the Beta Main Canal, and portions of Fresno Slough may be crossed by the PG&E Project. Temporary impacts to wetland features during construction may include up to 0.003-acre of canals, 0.031-acre of managed sloughs, and 0.18-acre of freshwater wetland as described in Section 3.5 and shown in Figure 3.5-2. Temporary impacts may occur associated with vegetation clearing for pole construction and for stringing overhead conductor wire. Permanent impacts on wetland features would be avoided. Federal and state aquatic permits and water quality certification would be required for any change to existing channel, bed, or bank; removal or deposit of material; or diversion or obstruction of the natural flow of a jurisdictional water feature. If impacts to state or federal protected wetlands or other waters of the United

States and state cannot be avoided, PG&E would be required to obtain any required environmental permits and comply with the conditions of each. PG&E activities would also be subject to the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (HCP) avoidance and minimization measures, including those related to erosion control, as described in Section 3.5.

As described in Section 3.11.3.1, PG&E would implement Standard Practices during construction. The actions described in Section 2.6.7.7, *Other Construction Measures and Practices*, include litter and trash management, maintenance and refueling requirements, protocols to be followed for hazardous materials spills, and erosion control practices, among others that would reduce the potential PG&E Project impacts on water quality. With the implementation of standard practices and operating procedures and HCP avoidance and minimization measures, it is unlikely that the PG&E Project would result in violations of surface or groundwater quality. Therefore, the impacts would be **less than significant**.

Reconductoring activities are expected to take up to 18 months to complete. Once completed, PG&E's O&M activities would occur in the same ways and in the same locations as they do under existing (baseline) conditions, causing no net change in potential effects on compliance with water quality standards or waste discharge requirements or other surface or groundwater quality considerations. O&M also would require little, if any, water use, and would not result in disturbance that may impact surface or groundwater quality. The PG&E Project would have **no impact** relating to criterion a) following construction.

Mitigation: None required.

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.

The water supply and demand analysis (as follows) is based substantially on the WSA prepared for the Project (Appendix J).

Impact 3.11-3: The Rosemary 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)***

An impact could occur if site alteration directly interfered with groundwater recharge; or if the water demand posed by the Project were in exceedance of supply, such that sustainable groundwater management was impeded. Development of the Rosemary Project site would consist of a limited addition of impervious surfaces to the site, including graveled compacted substation surface, control structures, O&M buildings, and battery ESS containers. Access roads could also alter the porosity of the soil altering recharge conditions for groundwater. Although structures, such as the inverter transformer pads and BESS containers, would add impervious surfaces to the site, these structures would be interspersed throughout the unpaved sites along with the solar arrays. Rain would fall on the structures and drain into the soil recharging the groundwater table as it does under existing conditions. The majority of the Rosemary Project site would remain unpaved and pervious (or capable of surface infiltration) throughout the O&M phase and then would be disced and returned to a condition suitable for agricultural use as part

of the decommissioning and site restoration process (see Appendix B1, *Reclamation Plans*). As designed, the Rosemary Project would not substantially interfere with groundwater recharge and no groundwater dewatering during construction is anticipated.

The Rosemary Project's construction water demand (for dust suppression, fire water support, and other construction purposes) is estimated at 325 acre-feet over an 18-month construction timeframe. It is likely that the water would be supplied by WWD, predominantly through local groundwater resources, which are periodically augmented through regional surface water supplies (as summarized in Appendix J, *Water Supply Assessment*). According to the Westside GSP, the Westside Subbasin is in an overdraft condition; however, the subbasin groundwater budget has been relatively balanced over the historical water budget period.

If viewed from the context of a single below normal water year, construction water demand may temporarily decrease groundwater supply; however, a single year water demand would not necessarily impede sustainable groundwater management of the basin. As noted in the WSA, inflows and outflows vary year to year such that subsequent years with a positive groundwater budget can often outweigh the deficits. Further, construction water requirements would be short term and temporary, which would not affect the long-term sustainable management of the basin, and long-term water use required for the operation of the Rosemary Project would be substantially less than the amount required for construction activities. As the GSA for the Westside Subbasin, WWD is engaged in project and management actions to augment the groundwater to offset temporary depletions associated with local demand. WWD also has agreements in place with the Central Valley Project (CVP) to provide water through surface supplies to offset groundwater demand (WWD 2022). These actions and agreements support long-term sustainability or stable groundwater levels and limit undesirable results (such as subsidence, degradation of groundwater quality, and reduced groundwater levels) that could otherwise affect other groundwater wells within the Westside subbasin. Further, WWD indicated that it can supply 635 acre-feet annually from its well, or 310 acre-feet more than the Rosemary Project would require over the 18-month construction period. Impacts to the Westside Groundwater Subbasin would be insignificant and have been accounted for by WWD in its management of the Subbasin. As discussed in the setting, a small portion of the Rosemary Project site is located in the Kings subbasin under the groundwater sustainability jurisdiction of the North Fork Kings GSA. However, water would not be drawn from this location and is therefore not discussed further in this section.

Water demand for O&M purposes is estimated to be 2,046,000 gallons or a maximum of 6.3 acre-feet annually. WWD indicated that it can supply 9.8 acre-feet annually from its well, or 3.5 acre-feet more than the Rosemary Project would use during O&M. The WSA concludes that the Project's water demands, for which available supply has been confirmed by WWD, would not meaningfully change the existing and projected groundwater budget in the subbasin. Although projections in the GSP for the subbasin indicate a decline in groundwater storage, WWD's GSP is designed to sustainably manage the basin through a sustainable yield and other management actions, and WWD has determined that it can adequately supply water to the Rosemary Project. Further, the incremental impact of the Rosemary Project on cumulative change in groundwater in storage projections over the period water year 2025 to 2068 is estimated to be 0.03 percent of the Westside Subbasin, which represents a negligible change compared to existing conditions. This timeframe also includes the decommissioning and site reclamation phase, which would have similar requirements as construction activities. The Rosemary Project would not

substantially decrease groundwater supplies or substantially interfere with recharge. Therefore, the impacts would be **less than significant**.

Impact 3.11-4: The PG&E Project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that the sustainable groundwater management of the basin would be impeded. ***(Less-than-Significant Impact)***

Although water trucks would be used during construction to control dust and for fire protection, the PG&E Project would not require extensive or ongoing water supplies. Pole replacement, if required, would occur in locations similar to those currently in use. Modifications to the PG&E substation and switching station could include installing new or upgraded equipment consisting of circuit breakers and related foundations and concrete trenches, equipment cabinets, bus structures, conduits, pull boxes, IT and communications fiber, and concrete-encased conduit duct banks within existing developed facilities. There would be minimal added impervious surface area as part of the reconductoring, substation, and switching station facilities' work. Due to the depth to groundwater in the vicinity of the PG&E Project, groundwater would not be encountered during construction, and no groundwater dewatering would occur. Therefore, implementation of the PG&E Project would not decrease groundwater supplies or interfere with groundwater recharge. Potential impacts on the groundwater basin associated with the PG&E Project would be **less than significant**.

Criterion c) 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.

Impact 3.11-5: The Rosemary 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 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows. (*Less-than-Significant Impact*)

The Rosemary Project would involve the construction of a solar facility, battery ESS, interconnection, and associated components that would include grading and may include the use of erosion control sediment detention basins, and the addition of impervious surfaces. These components would alter drainage patterns of the Rosemary Project site. In the absence of other factors, site disturbance during construction could generate erosion, siltation, and conditions for increased runoff.

As discussed under Impact 3.11-1, the Rosemary Project site is predominantly flat with very limited potential for generating runoff. As discussed, the Project would apply for NPDES (discharge) coverage under the Construction Stormwater General Permit, which would include the development and implementation of a SWPPP. As designed, there are runoff containment components considered as part of

the Rosemary Project. Stormwater retention basins constructed along the south side of the Rosemary Project site would accommodate construction site runoff. Silt fences would be in place just north of West Conejo Avenue to limit runoff from leaving the site. Therefore, construction would not result in substantial erosion, increase the rate or volume of runoff, or provide substantial additional sources of polluted runoff. The APMs described in Section 3.11.3.1, *Applicant-Proposed Measures and Standard Practices,* would limit erosion and control runoff; a SWPPP would be implemented to reduce associated stormwater effects. Therefore, impacts associated with construction would be **less than significant**.

Once operational, the Rosemary Project would not include activities that would alter the existing drainage patterns or provide additional sources of polluted runoff. Runoff would be designed for containment within the stormwater retention basins proposed to be located at the southern end of each of the three solar array sites. Post-construction SWPPP monitoring requirements would remain in place following construction. As designed, there would be limited impervious surfaces added to the Rosemary Project site(s), including O&M buildings; inverter and transformer pads; battery ESS containers; and compacted, graveled areas. No alterations to surface waters are proposed as part of the Rosemary Project since there are no surface water features on the Rosemary Project site. Although small portions of the Rosemary Project's interconnection to the Crescent Switching Station would be within the 100-year flood hazard zone, the gen-tie line would not appreciably impede or redirect flood flows. The gen-tie alignment options include an overhead alignment that would require installation of poles. Alternatively, the gen-tie line may be installed underground either through direct trenching or underground directional boring or a combination of these methods. None of the proposed gen-tie line options would result in impedance or redirection of flood flows. Therefore, the impacts would be **less than significant**.

Mitigation: None required.

Impact 3.11-6: The PG&E 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 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows. (*Less-than-Significant Impact*)

As described in Section 2.6, *Description of the PG&E Project*, in Chapter 2, *Project Description*, the PG&E Reconductoring work would entail reconductoring of the Helm–Crescent 70kV transmission line over 5 linear miles within roadways or franchise positions with no change to the existing PG&E right-of-way, as well as substation upgrades within the boundaries of existing facilities. It is likely that the reconductoring route would be adjacent to the Crescent Ditch and cross Fresno Slough in an overhead position. The majority of the reconductoring alignment would be within a 100-year (1 percent annual chance) flood zone. The PG&E Project would entail the installation (replacement of poles) of replacement conductors, the use of staging and pull sites, and modifications to the existing substation and switching station to interconnect with the Rosemary Project. As proposed, the reconductoring activities would not alter drainage patterns of the site or area. The minimal addition of impervious surfaces would not impede or redirect flood flows.

Temporary use of work sites, pull sites, and a staging area is also proposed, including minor grading or site work to safely accommodate large equipment. Minor localized site disturbance would occur during construction. However, as discussed under Impact 3.11-2, PG&E would employ standard practices to limit runoff and control erosion during construction. In the event that the proposed construction activities disturb more than 1 acre of ground surface, the PG&E Project would be required to obtain NPDES (discharge) coverage under the Construction Stormwater General Permit. At a minimum, the standard practices employed by PG&E would include those listed in Section 2.6.7.7, *Other Construction Measures and Practices*. As discussed under Impact 3.11-2, these measures would limit erosion and surface runoff and associated pollutants. Reconductoring-related construction impacts would be **less than significant**.

Once operational, the reconductored power lines, switchyard, and substation would be maintained and operated as they currently are. Because there would be no change to the PG&E right-of-way, no increase in maintenance activities would occur with the PG&E Project. O&M activities would be limited and would not result in significant erosion, increased runoff rates or volumes, or additional sources of polluted runoff. Therefore, the impacts associated with the PG&E Project would be **less than significant**.

Criterion d) Whether the Project would (in flood hazard, tsunami, or seiche zones) risk release of pollutants due to project inundation.

The Rosemary Project and PG&E Project would not be developed in a tsunami or seiche zone and would not be at risk of releasing pollutants due to inundation during a tsunami or seiche event. As noted in the environmental setting, the Rosemary Project site and PG&E Project site are located inland with no large water bodies in the vicinity. Therefore, the Rosemary Project and PG&E Project would have no risk, and there would be **no impact** associated with tsunamis or seiches. (*No Impact*).

Impact 3.11-7: The Rosemary Project could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone. *(Less-than-Significant Impact)*

The Rosemary Project site is predominantly flat and (with the exception of the interconnection) located mostly outside of an identified flood hazard zone (Appendix H, Figure 3). However, the southwest portion of the site is within a 1 percent annual chance (100-year) flood zone with no base flood elevations determined. One of the gen-tie route options along the northern portion of the site (along West Kamm Avenue) is also within the 100-year flood zone. As discussed under Impact 3.11-1, a SWPPP would be implemented during construction along with various other standard regulatory requirements to limit runoff and the potential release of hazardous substances. As designed, each of the proposed Rosemary solar energy generation areas would include a stormwater retention basin to contain stormwater in the event of heavy rain. See Figure 2-2, *Rosemary 1*, Figure 2-3, *Rosemary 2*, and Figure 2-4, *Rosemary 3*. The Rosemary Project site as a whole has minimal topographic variation due to its location. Even with the close proximity of the 100-year flood hazard zone, there is very little potential risk for release of sediment and other pollutants. No hazardous materials would be stored in the flood zone or would be moved or properly stored prior to a flood event. The Rosemary Project would comply with all applicable local, state, and federal requirements regarding the handling and storage of hazardous materials during construction, O&M, and decommissioning, which would require relatively minor use of hazardous materials. Therefore, impacts would be **less than significant**.

Mitigation: None required.

Impact 3.11-8: The PG&E Project could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone. ***(Less-than-Significant Impact)***

The Cresent Switching Station and portions of the 5-mile-long reconductoring route would cross through a special flood hazard zone (FEMA Zone A with no base flood elevation determined) subject to inundation by the 1-percent annual chance flood (100-year flood zone). The PG&E Project would include pole replacement (tubular steel poles and light-duty steel) within the 100-year flood hazard zone. As discussed under Impact 3.11-2, with implementation of standard practices and operating procedures, likely the PG&E Project would not result in violations of surface or groundwater quality. PG&E also would comply with all applicable local, state, and federal requirements regarding the handling and storage of hazardous materials during construction and O&M, which would require relatively minor use of hazardous materials. No hazardous materials would be stored in the flood zone or would be moved or improperly stored prior to a flood event. Due to the nature of the work proposed, the relatively flat terrain, and with the implementation of PG&E standards, there is minimal risk associated with the release of pollutants. Therefore, the impact would be **less than significant**.

Mitigation: None required.

Criterion e) Whether the Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As discussed under Impact 3.11-1, due to the flat topography of the site, potential impacts on water quality associated with erosion or sedimentation are expected to be localized and temporary during construction and decommissioning. Coverage under the Construction Stormwater General Permit would include the development and implementation of a site-specific SWPPP, which would reduce runoff and other water quality impacts. Once operational, post construction requirements would remain in effect, consistent with the SWPPP. Adherence to regulatory controls, including those included as part of the Construction Stormwater General Permit and water quality standards and objectives as defined in the Basin Plan would effectively reduce the potential for runoff, and the Rosemary Project would not result in violations of water quality. Therefore, the Rosemary Project would not conflict with the Basin Plan and there would be **no impact**.

Impact 3.11-9: The Rosemary Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (*Less-than-Significant Impact)*

As discussed under Impact 3.11-3, the WSA evaluated the water demand of the Rosemary Project against the GSP groundwater budgets under multiple water year scenarios to determine if the available supply would be sufficient to meet the Project's water demand. The WSA concluded that the annual construction and O&M water demand of the Rosemary Project represents less than 0.03 percent of both the projected regional imported water volumes and groundwater in storage (2025–2070). This timeframe includes decommissioning. The assumed water demand would not conflict with sustainable management of the groundwater basin, or the goals outlined in the GSP. Therefore, the Rosemary Project would not conflict with the GSP, and the limited water demand would not meaningfully obstruct sustainable groundwater management of the Westside Subbasin. Therefore, the impact would be **less than significant**.

Impact 3.11-10: The PG&E Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. ***(Less-than-Significant Impact)***

As noted, the actions described in Section 2.6.7.7, *Other Construction Measures and Practices*, include litter and trash management, maintenance and refueling requirements, protocols for hazardous materials spills, and erosion control materials standards that would help reduce potential PG&E Project impacts related to water quality. Adherence to these standards during PG&E construction activities would minimize surface and groundwater contamination, consistent with the objectives outlined in the Basin Plan. Therefore, the impacts would be **less than significant**.

The PG&E Project would require little water during construction, which would be limited to that required for dust control and other construction purposes. Once operational, there would be little to no ongoing water demand associated with the PG&E power lines and substations; implementation of a sustainable groundwater management plan would not be obstructed. Therefore, impacts would be **less than significant**.

3.11.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.11-1**, *Summary of Project Impacts on Hydrology and Water Quality*, summarizes the hydrology and water quality impacts of the Project as a whole.

TABLE 3.11-1
SUMMARY OF PROJECT IMPACTS ON HYDROLOGY AND WATER QUALITY

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
iv. 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?	☐	☐	☒	☐

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	☐	☐	☒	☐

3.11.4 Cumulative Effects

The geographic scope of analysis of cumulative effects includes the Project site (inclusive of the Rosemary Project and PG&E Project sites), affected waterways, and surrounding watersheds and aquifers potentially impacted by site clearing, construction, operation and maintenance, and decommissioning of the Rosemary Project, and reconductoring-related construction activities for the PG&E Project. The cumulative context for surface water hydrology and water quality is the Upper Dry watershed. The cumulative context for groundwater is the San Joaquin Valley Groundwater Basin - Westside and Kings subbasins. Consideration of the cumulative scenario includes the ongoing effects of past projects in the relevant geography, as well as other present and reasonably foreseeable future activities that could combine with those of the Project to influence land contours and hydrological issues across the landscape. This analysis considers the incremental effects of the Project to determine whether, in combination with the effects of other projects in the cumulative scenario, they would cause or contribute to significant cumulative effects.

The temporal scope includes the 40-year duration of the Rosemary Project, from the initiation of on-site work for construction to the conclusion of on-site work for project decommissioning and site restoration. The temporal scope also includes the approximately 18 months that are expected to be needed to complete reconductoring for the PG&E Project. Once reconductoring is complete, O&M activities, locations, and durations would be limited and substantially the same as they are under existing (baseline) conditions. Accordingly, the PG&E Project would have **no impact** on cumulative effects once reconductoring is complete.

Criterion a) Whether the Project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Impact 3.11-11: The Project would not make a cumulatively considerable contribution to a significant cumulative effect due to violation of any water quality standards or waste discharge requirements or other substantial degradation of surface or ground water quality. ***(Less-than-Significant Impact)***

As discussed under Impacts 3.11-1 and 3.11-2, this evaluation determined that less-than-significant impacts associated with degradation of surface water or groundwater could occur. In addition, with adherence to regulatory requirements in effect to protect water resources, these impacts would not be substantial. As noted, the Rosemary Project (and PG&E Project depending on amount of ground disturbance) would obtain NPDES (discharge) coverage under the Construction Stormwater General

Permit if disturbance of 1 acre or more would occur and would include the development and implementation of a site-specific SWPPP to limit discharge of pollutants that could otherwise degrade surface water and groundwater quality. PG&E also would employ standard practices to limit runoff and control erosion during construction. The Project could contribute runoff and discharges that, in combination with other past, present, and future development in the watershed, could potentially impact water quality. Likewise, existing and proposed land uses and activities would continue to infiltrate and affect groundwater quality in the San Joaquin Valley Groundwater Basin - Westside and Kings subbasins.

As described previously, development under the Rosemary Project and PG&E Project would include construction and O&M activities, and for the Rosemary Project would also include decommissioning. These activities could result in the degradation of surface water and groundwater quality, resulting in a potentially significant contribution to cumulative effects. However, the Project would be required to comply with the current and future Basin Plans, applicable NPDES Permit requirements, standard construction measures, and other water quality regulations. These regulatory requirements and design features would reduce the Project's incremental contribution to the cumulative effect to a less-than-cumulatively-considerable level. Other projects in the cumulative scenario that could involve substantial earthmoving activities (potentially including decommissioning of the Fresno Solar South, Stroud Solar Station, Buford Five Points Solar, and Aspiration/Giffen Solar projects, which are closest to the Rosemary Project site) at the same time as the Rosemary Project's construction or decommissioning activities would also be subject to water quality standards and stormwater protection measures required to comply with independently enforceable Federal, State, and local water quality and stormwater legal requirements. Area-wide implementation of such standards and measures would help ensure that cumulative effects would be less than significant. When considered together in the cumulative scenario, cumulative effects of the Rosemary Project, PG&E Project, and other projects identified in Section 3.1.3.1, *Cumulative Scenario*, would be **less than significant**.

Mitigation: None required.

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.

Impact 3.11-12: The Project would not make a cumulatively considerable contribution to a significant cumulative effect relating to a substantial decrease in groundwater supplies or substantial interference with groundwater recharge such that sustainable groundwater management of the basin may be impeded. *(Less-than-Significant Impact)*

Groundwater pumping is regulated under the Westside Subbasin GSP and the San Joaquin Valley–Kings Subbasin GSP, which consider the cumulative scenario for long-term groundwater management. WWD manages the groundwater through a variety of actions to augment and achieve sustainability goals of the subbasin. As discussed under Impact 3.11-3, the WSA concludes that the Rosemary Project's water demands, for which available supply has been confirmed by WWD, would not meaningfully change the existing and projected groundwater budget in the subbasin. The incremental impact of the Rosemary Project on cumulative change in groundwater in storage over the period water year 2025–2068 is

estimated to be 0.03 percent of the Westside Subbasin, which represents a negligible change compared to existing conditions.

Although the relevant groundwater subbasin is in a critically overdrafted condition, WWD is engaged in project and management actions to augment the groundwater to offset temporary depletions associated with local demand. WWD also has agreements in place with CVP to provide water through surface supplies to reduce groundwater demand (WWD 2022). These actions and agreements support long-term sustainability or stable groundwater levels and limit undesirable results (such as subsidence, degradation of groundwater quality, and reduced groundwater levels) that could otherwise affect other groundwater wells within the Westside subbasin. The Rosemary Project's incremental less-than-significant contribution to existing overdraft subbasin conditions would be cumulatively considerable if it hinders efforts to use and manage groundwater in a way that can be maintained long-term without causing undesirable consequences, such as depletion of the resource, subsidence, or degradation of water quality. In other words, the Rosemary Project's cumulative effect would be significant if its contribution to the overall condition would prevent the long-term viability of the groundwater subbasin and the resources it provides. The Rosemary Project's incremental contribution to the existing significant cumulative effect would not be cumulatively considerable because it would not hinder the viability of the long-term management of the subbasin pursuant to the SGMA. WWD (as water provider and GSA) exercises its authority, discretion, and responsibility pursuant to SGMA to evaluate these potential cumulative water demands on a case-by-case basis, relative to existing and planned water supplies. WWD indicated that it can supply the Rosemary Project with water, and that such supply would be consistent with WWD's long-term management of the subbasin. Other projects in cumulative scenario would also be required to help ensure that sufficient groundwater supplies would be available and consistent with sustainable groundwater management. Therefore, cumulative effects would be **less than significant**, and the incremental effect of the Rosemary Project would not be cumulatively considerable.

The PG&E Project's incremental, less-than-significant contribution to subbasin overdraft conditions would also not be cumulatively considerable. The water demand of the PG&E Project would be temporary, limited to the construction phase, and limited in quantity. Combined with the incremental impacts of other projects in the cumulative scenario, the PG&E Project's cumulative effect would be **less than significant**.

Mitigation: None required.

Criterion c) 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.

Impact 3.11-13: The Project would not make a cumulatively considerable contribution to a significant cumulative effect relating to substantial alteration of the existing drainage pattern of the site or area in a manner that 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. ***(Less-than-Significant Impact)***

The Rosemary Project would implement a SWPPP to limit runoff and contain stormwater in retention basins; therefore, as noted under Impact 3.11-3, the analysis determined that less-than-significant impacts under this criterion would result. Other cumulative projects, such as the Luna Valley Solar, Sonrisa Solar, and Darden Clean Energy projects would be designed such that surface runoff would not result in flooding, create or contribute runoff which would exceed the capacity drainage systems or provide substantial additional sources of polluted runoff. Other projects in the cumulative scenario would also be subject to the same or similar water quality standards as this Project. Given that the projects in the cumulative scenario are subject to these considerations and compliance with these regulations would reduce the effects, the incremental effect of the Rosemary Project, combined with the effects of other projects, would not result in significant cumulative effects, nor would the Rosemary Project's contribution be cumulatively considerable. Therefore, the cumulative effect would be **less than significant**.

As discussed under Impact 3.11-2, PG&E Project construction activities would employ standard practices to limit runoff and control erosion during construction and potentially be required to obtain NPDES (discharge) coverage under the Construction General Permit if it would disturb more than 1 acre of ground surface. Other foreseeable future projects similarly would comply with applicable stormwater and drainage regulations and best management practices and would be designed such that runoff would not result in flooding, exceed the capacity drainage systems, or provide substantial additional sources of polluted runoff. When considered along with other projects in the cumulative scenario, cumulative effects would be **less than significant**, and the PG&E Project's contribution would not be cumulatively considerable.

Mitigation: None required.

Criterion d) Whether the Project would (in flood hazard, tsunami, or seiche zones) risk release of pollutants due to project inundation.

As discussed, the Project would cause no impact with respect to being located in a tsunami or seiche zone. Therefore, the Rosemary Project and PG&E Project would not cause or contribute to any potential significant cumulative effects regarding these considerations. There would be **no impact**.

Impact 3.11-14: The Project would not make a cumulatively considerable contribution to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation. ***(Less-than-Significant Impact)***

The Project's incremental less-than-significant impacts associated with risk for release of pollutants due to inundation in a 100-year flood zone would not combine with impacts from other projects in the cumulative scenario to result in significant cumulative effects. A small amount of the Project site is within a flood hazard zone. Implementation of the Project would result in a less-than-significant impact on

hazards and hazardous materials, as analyzed in Section 3.10, *Hazards and Hazardous Materials*. The minor amount of work that would occur in a flood zone would not overlap with the incremental impacts of other projects in the cumulative scenario (the nearest of which is approximately 1 mile away) to cause or contribute to a significant cumulative effect. Therefore, the cumulative effect relating to criterion d) would be **less than significant**.

Mitigation: None required.

Criterion e) Whether the Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As discussed under Impact 3.11-1 and Impact 3.11-2, neither the Rosemary Project nor the PG&E Project would result in violations of surface or groundwater quality. As determined under Impact 3.11-9 and 3.11-10, the Rosemary Project and the PG&E Project would not conflict with the Basin Plan, GSP, or obstruct sustainable groundwater management of the Westside or Kings subbasins. The WSA prepared for the Project (Appendix J) determined that the incremental impact of the Rosemary Project on cumulative change in groundwater in storage over the period 2025–2068 is estimated to be 0.03 percent of the Westside Subbasin, which represents a negligible change compared to existing conditions. Other projects in cumulative scenario also would be required to demonstrate sufficient available groundwater supplies consistent with sustainable groundwater management plan goals. Reasonably foreseeable future projects in the cumulative scenario would also be required to demonstrate sufficient water supplies are available to serve their projects without exceeding groundwater supplies, consistent with the relevant GSPs. Thus, cumulative effects would be less than significant, and the Rosemary Project's incremental level of water demand would not be cumulatively considerable. As determined under Impact 3.11-10, the PG&E Project also would not conflict with sustainable groundwater management. Both Projects' incremental less-than-significant effects associated with water quality and groundwater demand would not combine with impacts of other projects to result in significant cumulative effects. Therefore, the cumulative effect of the Rosemary Project and PG&E Project would be **less than significant**.

Mitigation: None required.

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3.12 Land Use and Planning

This section identifies and evaluates issues related to land use and planning, including the potential for physical division of an established community and/or a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. 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 comments regarding land use and planning during the Project scoping period (**Appendix A**, *Scoping Report*).

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 approximately 1,172-acre Rosemary Project site and the approximately 5-linear-mile-long, approximately 50-foot-wide corridor Pacific Gas and Electric Company (PG&E) Project site, including the existing Helm Substation Crescent Switching Station. (See Table 2-1, *Project Components and Parcels*, in Chapter 2, *Project Description*, for further details on Project components, details, and APNs).

3.12.1.2 Environmental Setting

The Project site (i.e., the Rosemary Project site plus the PG&E Project site) is located in unincorporated Fresno County approximately 25 miles southwest of Fresno, 6 miles east of Cantua Creek, 5 miles south of San Joaquin, and west of State Route 145 (also called Lassen Avenue). The Project site is proposed on lands designated Agricultural in the Fresno County General Plan and is mapped within the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zone district.

The approximately 1,172-acre Rosemary Project site is currently on fallowed farmland that has not been irrigated for approximately 20 years. The site includes unvegetated areas including roads (paved and unpaved), canals and agricultural ditches, and multiple out-of-service wells. The Rosemary Project site consists of four separate gen-tie line route options, three of which would cross a portion of the U.S. Bureau of Reclamation (Reclamation) canal to the north and east of the site.

The PG&E Project site is located adjacent to the Rosemary Project site to the east and north. The existing PG&E Crescent Switching Station occupies approximately 3 acres within an approximately 7-acre site just east of the intersection of West Kamm Avenue and South Yuba Avenue, approximately 2.75 miles west of the community of Helm. The existing PG&E Helm Substation occupies approximately 7.75 acres within an approximately 46-acre parcel located at 9748 S. Placer Avenue, south of West Manning Avenue on the east side of South Placer Avenue near the City of San Joaquin. The PG&E Project site is currently used for energy-related purposes.

Land surrounding the Project site is mostly used for agricultural purposes. Land uses generally to the north and south of the Project site are agricultural. Land uses to the east of the Project site include a fertilizer manufacturer/supplier, solar PV generating facilities, agricultural uses, other businesses, and the Fresno Slough. Land uses to the west of the Project site include agricultural, a solar PV generating facility, Fresno Slough, and residential uses. The nearest residence to the Rosemary Project site is

approximately 1.2 miles to the northwest. The nearest residence to the PG&E Project site is approximately 80 feet west of the existing Helm–Crescent 70 kV electric transmission line.

3.12.1.3 Regulatory Setting

Federal

Reclamation Project Act

Section 10 of the Reclamation Project Act of 1939, as amended, authorizes Reclamation to grant right-of-way permits on its lands, facilities, and waterbodies (USC Title 43, Section 387). Implementing regulations found in Code of Federal Regulations (CFR) Title 43, Part 429 outline the use of Reclamation land, while the regulations found in CFR Title 43, Part 21 provide the general rules and procedures for Reclamation use authorizations, including rights-of-way. The Rosemary Project boundary includes lands administered by the Reclamation and, as disclosed in Table 2-3, *Permits and Approvals*, in Chapter 2, *Project Description*, one or more rights-of-way may be required to cross the Reclamation canal.

State

California Public Utilities Commission General Order No. 131-E

The California Public Utilities Commission (CPUC) would have jurisdiction over the construction, operation, and maintenance of the PG&E Project because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. State law preempts local jurisdictions from using their local land use authority to regulate electric facilities constructed by public utilities such as PG&E; nonetheless, consistent with General Order 131-E Section XIV(B), PG&E would be required to consult with the County regarding land use matters.

Local

Fresno County General Plan

The Fresno County General Plan is the County's long-range land use 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 Environmental Justice. The Agriculture and Land Use Element describes the County's Land Use Diagram and related development standards and sets out goals and policies under eight main sections: Agriculture; Westside Rangelands; River Influence Areas; Westside Freeway Corridor; Non-Agricultural Rural Development; Urban Development Patterns; Incorporated City, City Fringe Area, and Unincorporated Community Development; and General and Administrative Provisions (Fresno County 2024a).

The Project site's General Plan land use designation is Agriculture, which provides for the production of crops and livestock, the location of necessary agricultural commercial centers, agricultural processing facilities, and certain non-agricultural activities. The Project site is not located within a community plan area. The following General Plan goal and policies are relevant to consideration of the Project's impacts on land use and planning; a discussion of the Project's consistency with the General Plan is provided in **Appendix K1**, *Consistency with Fresno County General Plan*.

> **Goal LU-A:** To promote the long-term conservation of productive and potentially 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 Agricultural Land Conservation: 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 Special Agricultural Uses: 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. Approval of these and similar uses in areas designated Agriculture shall be subject to 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 (1/4) mile radius;

d. A probable workforce should be located nearby or be readily available.

Policy LU-A.13 Agricultural Buffers: The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations. Additionally, the County shall consider buffers between agricultural uses and proposed sensitive receptors when processing discretionary land use applications.

Policy LU-A.14 Agricultural Land Conversion Review: 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.

Fresno County Zoning Code

According to the Fresno County Zoning Map, all parcels that make up the Project site are zoned AE-20 zone pursuant to Fresno County Zoning Code Section 808.2. The *AE* District is an exclusive agricultural district 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 (e.g., breeding, raising, and maintenance), raising crops, farm dwellings, packaging facilities, and other agriculture-related uses.

The County processes photovoltaic solar facility projects through the Unclassified Conditional Use Permit (CUP) process for power production and generation facilities (including utility-scale photovoltaic facilities), as described in Fresno County Zoning Code Section 842.5.020(B) (Fresno County 2024b). Uses subject to Fresno County Director review and approval include communications equipment buildings, microwave relay structures, electrical (e.g., 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 2024b). Exemptions

from Land Use Permit Requirements as described in Fresno County Zoning Code Section 804.1.030 include the alteration, construction, erection, or maintenance of electric utilities by a public utility or public agency such as the CPUC (Fresno County 2024b).

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, identifies considerations to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017). The text of the Solar Facility Guidelines and an analysis of the Project's consistency with them are provided in **Appendix K2**, *Consistency with Fresno County's Solar Facility Guidelines*.

3.12.2 Significance Criteria

A project would result in significant impacts on 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the APMs and none of the Standard Practices focus on land use and planning.

3.12.3.2 Methodology

Analysts evaluated the location of the Project site relative to established communities and the nature of the proposed use, including for consistency with County land use and planning documents and requirements, to determine whether the Project would result in a potential significant change to existing land use and planning conditions with respect to the impact criteria.

3.12.3.3 Direct and Indirect Effects of the Project

Criterion a) Whether the Project would physically divide an established community.

Rosemary Project

The Rosemary Project would not physically divide an established community. *(No Impact)*

As described in Section 3.12.1.2, *Environmental Setting*, the Rosemary Project is proposed in rural, unincorporated Fresno County approximately 5 miles south of San Joaquin, 6 miles east of Cantua Creek, and 25 miles southwest of Fresno. The nearest residence is approximately 1.2 miles northwest from the Rosemary Project site. 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. Because the Rosemary Project site is not located within an existing community, the Rosemary Project would not cross through or physically divide an established community. Although the construction and operation phases of the Project would include the installation and presence of perimeter fencing surrounding the Project site, such features would not create a physical barrier that would physically divide an established community or hinder existing community access. Operation and maintenance activities would use internal access roads and would not divide an established community or impede pedestrian or vehicular access to community features (see Section 3.18, *Transportation*, for further information on impacts on pedestrian and vehicular access). Decommissioning of the Rosemary Project would restore the site in accordance with the County-approved reclamation plan, in which the site would be restored to a condition comparable to pre-Project conditions. Therefore, the Rosemary Project would not physically divide an established community and there would be **no impact** under this criterion a).

Mitigation: None required.

PG&E Project

The PG&E Project would not physically divide an established community. *(No Impact)*

As described in Section 2.6, *Description of the PG&E Project*, PG&E would reconductor the existing Helm–Cresent 70 kilovolt electric transmission line to facilitate interconnection of the Rosemary Project. Minor improvements to the existing PG&E Helm Substation and/or Crescent Switching Station, within those existing facility boundaries, may also be necessary. As described in Section 3.12.1.2, *Environmental Setting*, the PG&E Project site is located adjacent to the Rosemary Project site to the east and north within rural, unincorporated Fresno County; it also is approximately 2.75 miles west of the community of Helm. The nearest residence is approximately 80 feet from the transmission line and is not within an established community or neighborhood.

As mentioned above, the division of an established community would typically result from the construction of a physical barrier to neighborhood access or the removal of a means of access. Because the PG&E Project site is not located within an existing community, the Project would not cross through or physically divide an established community. The construction phase of the PG&E Project would involve the replacement or improvement of existing poles and the installation of new conductor wires where needed. Reconductoring may require temporary road closures on private and County roads, which may

cause minor delays in pedestrian or vehicular access to surrounding communities but would not physically divide them (see Section 3.18, *Transportation*, for further information on impacts on pedestrian and vehicular access).

Operation and maintenance activities associated with the reconductored electrical line would result in no change from PG&E's current practices or baseline conditions. Such activities would include monitoring the system remotely, responding and repairing the line if outages are detected, and conducting routine inspections of the line and poles at regular intervals. None of these activities would create a physical barrier within an established community. Therefore, the PG&E Project would not physically divide an established community and there would be **no impact** under this criterion a).

Mitigation: None required.

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.

Rosemary Project

The Rosemary Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. *(No Impact)*

The Applicant has filed four Unclassified CUP applications to construct, operate, maintain, and decommission the photovoltaic solar electricity generating facility and battery energy storage system (including a shared facilities site in one of two potential locations) within the Project boundary. The County is processing the permit application for the Rosemary Project in accordance with the CUP process for power production and generation facilities (including utility-scale photovoltaic facilities), as described in Fresno County Zoning Code section 842.5.020(B). The Rosemary Project site is zoned AE-20. Compliance with conditions of approval for the CUP informed by the permit and environmental review processes would help ensure that the Project would not conflict with the underlying AE-20 zone.

As described in Section 3.12.1.2, *Environmental Setting*, the Rosemary Project site consists of land designated as Agricultural in the Fresno County General Plan. The Rosemary Project site also consists of land owned by the Reclamation, WWD, private landowners, and PG&E. The Rosemary Project would not conflict with any of the applicable land use plans, policies, or regulations listed under Section 3.12.1.3, *Regulatory Setting*. For example, the Project would be consistent with Policy LU-A.13 regarding the County's protection of agricultural operations from conflicts with nonagricultural uses because the Rosemary Project would maintain a 50-foot buffer between the site and adjacent agricultural operations and would implement a County-approved reclamation plan, in which the site would be restored to a condition suitable to support a return to pre-project agricultural use after decommissioning. The Rosemary Project would be consistent with Policy LU-A.14 because County review of the Unclassified CUP includes an assessment of the conversion of productive agricultural land as presented in Section 3.3, *Agriculture and Forestry Resources*. Additional details of the Rosemary Project's consistency with the Fresno County General Plan policies and programs are provided in Appendix K1.

The Rosemary Project also would be required to comply 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 Rosemary Project would, for example, implement a reclamation plan to return the site to prior agricultural use after decommissioning (see **Appendix B1**, which contains a draft reclamation plan for each of the requested CUPs) and develop a pest management plan (a draft of which is included in **Appendix B2**). Details of other aspects of the Rosemary Project's consistency with the Fresno County Solar Facility Guidelines are provided in Appendix K2.

As disclosed in Table 2-3, *Permits and Approvals*, in Chapter 2, *Project Description*, one or more rights-of-way may be required to cross the Reclamation's canal. Reclamation would process a right-of-way application for the Rosemary Project consistent with the Reclamation Project Act and its implementing regulations. Compliance with any conditions of right-of-way approval would help ensure that the Rosemary Project would not conflict with Reclamation's land use or planning efforts in the Project area.

Similarly, an easement subordination may be required to cross a portion of a floodplain conservation easement held by the Natural Resources Conservation Service. The Natural Resources Conservation Service would review and process any easement subordination application for the Rosemary Project in accordance with the Federal Natural Resources Conservation Service's policies and other applicable federal regulations. Compliance with any conditions of an easement subordination approval would help ensure that the Rosemary Project would not conflict with the agency's conservation easement protections in the Project area.

Because the Rosemary Project would be consistent with applicable provisions of the General Plan, Zoning Code, Fresno County Solar Facility Guidelines, and applicable requirements of Reclamation regulations, it would cause **no impact** relating to this criterion b).

Mitigation: None required.

PG&E Project

The PG&E Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. *(No Impact)*

CPUC has sole and exclusive state jurisdiction over the siting and design of the PG&E Project. Pursuant to CPUC General Order 131-E, Section XI.B, "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 the Commission's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." The PG&E Project would comply with applicable CPUC plans, policies, and regulations. Further, in evaluating the consistency of the PG&E Project with the County land use plans, policies, and regulations, the County has determined that no conflicts exist. Therefore, the PG&E Project would have **no impact** regarding this criterion b).

Mitigation: None required.

3.12.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.12-1**, *Summary of Project Impacts on Land Use and Planning*, summarizes the impacts of the Project as a whole on land use and planning.

TABLE 3.12-1
SUMMARY OF PROJECT IMPACTS ON LAND USE AND PLANNING

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

3.12.4 Cumulative Effects

Because the Project (including the Rosemary Project and the PG&E Project) would cause no impact on land use and planning, it would not cause or contribute to any significant cumulative effect on land use or planning considerations: the Rosemary Project and the PG&E Project would have **no cumulative effect** on land use or planning.

3.12.5 References

Fresno County. 2017. *Solar Facility Guidelines*. Available: https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/photovoltaic-facilities/photovoltaic-facilities-p-1621. Accessed March 10, 2025.

Fresno County. 2024a. *Fresno County General Plan.* Final. February 2024. Available: https://www.fresnocountyca.gov/files/sharedassets/county/v/1/public-works-and-planning/development-services/planning-and-land-use/general-plan/fcgpr_general-plan_county_final_2024_02.pdf. Accessed March 10, 2025.

Fresno County. 2024b. *Fresno County Zoning Ordinance (Zoning Ordinance Update).* February 2024. Available: https://www.fresnocountyca.gov/files/sharedassets/county/v/3/public-works-and-planning/zoning-ordinance/zoning-ordinance-final.pdf. Accessed March 10, 2025.

3.13 Mineral Resources

This section identifies and evaluates issues related to mineral resources, including potential losses in the availability of 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. The 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 did not receive any input during the scoping period pertaining to mineral resources (**Appendix A**, *Scoping Report*).

3.13.1 Setting

3.13.1.1 Study Area

The study area for the analysis of potential impacts on mineral resources is defined as the footprint of all Project components, including all areas of temporary and/or permanent ground disturbance for the approximately 1,172-acre Rosemary Project site and the 5-linear-mile-long, approximately 50-foot-wide corridor where the PG&E Project would occur. The study area is limited to the area within the Project site boundaries because impacts relative to mineral resources are generally site-specific.

3.13.1.2 Environmental Setting

Geologic Environment

Fresno County historically produces abundant amounts of a wide variety of mineral resources. The County contains aggregate resources and high-value commodities such as granite and marble, oil, coal, gold, silver, copper, mercury, tungsten, chromium, and asbestos. Aggregate resources and chromium are the County's most significant extractive resources (Fresno County 2024).

As described more fully in Section 3.8*, Geology, Soils, and Paleontological Resources*, the Project site is located within the western margin of the San Joaquin Valley and in the Great Valley geomorphic province (referred to as the *Central Valley*). The San Joaquin Valley floor consists of a thick sequence of sedimentary deposits which range in age from Jurassic[1] through Quaternary.[2] Surface geology at the site consists of Holocene-age[3] basin deposits. The thickness of the surficial Holocene alluvium varies across the San Joaquin Basin but is expected to be approximately 5 to 35 feet at the Project site (see **Appendix H**). In addition, the western edge of the Project site is immediately underlain by Quaternary fan deposits.

Mineral Resources Potential

The Mineral Resources Data System, administered by the U.S. Geological Survey (USGS), provides data to describe metallic and nonmetallic mineral resources, including deposit name, location, commodity, deposit description, production status, and references. To confirm the presence or absence of existing surface mines, closed mines, occurrences or prospects, and unknown or undefined mineral resources within the study area, the Mineral Resources Data System online database, the archive of mines maintained by the California Division of Mine Reclamation (CDMR), and the mineral land classification

[1] Jurassic time is from 145 million to 201 million years ago.
[2] Quaternary time is from 2.6 million years ago to the present.
[3] Holocene time is from 11,700 years ago to the present.

system of the California Geological Survey (CGS) all were reviewed (USGS 2025; CDMR 2025, CGS 2025). No mineral resources or operations are located within the Project site boundary.

The nearest mineral extraction facility is the Bass Avenue Material Site 91-10-0026, which is a streambed or gravel bar skimming and putting operation that mines sand and gravel; and is located approximately 24 miles northwest the Project site (CDMR 2025). The only mineral resources with the potential to occur near the Project site are aggregate resources. Alluvial geologic units in the region are potential sources of sand and gravel that could have value as a mineral resource commodity. Because sand and gravel are low-value, high-volume resources, the economic value and feasibility of developing them is predicated on the existence of high local demand from the construction industry.

Metallic resources and occurrences (such as mercury, gold, copper, and chromium) are restricted to the Coast Ranges to the west and the Sierra Nevada foothills to the east (USGS 2025). None of these resources occur within 30 miles of the Project site.

Mineral Land Classification under the Surface Mining and Reclamation Act

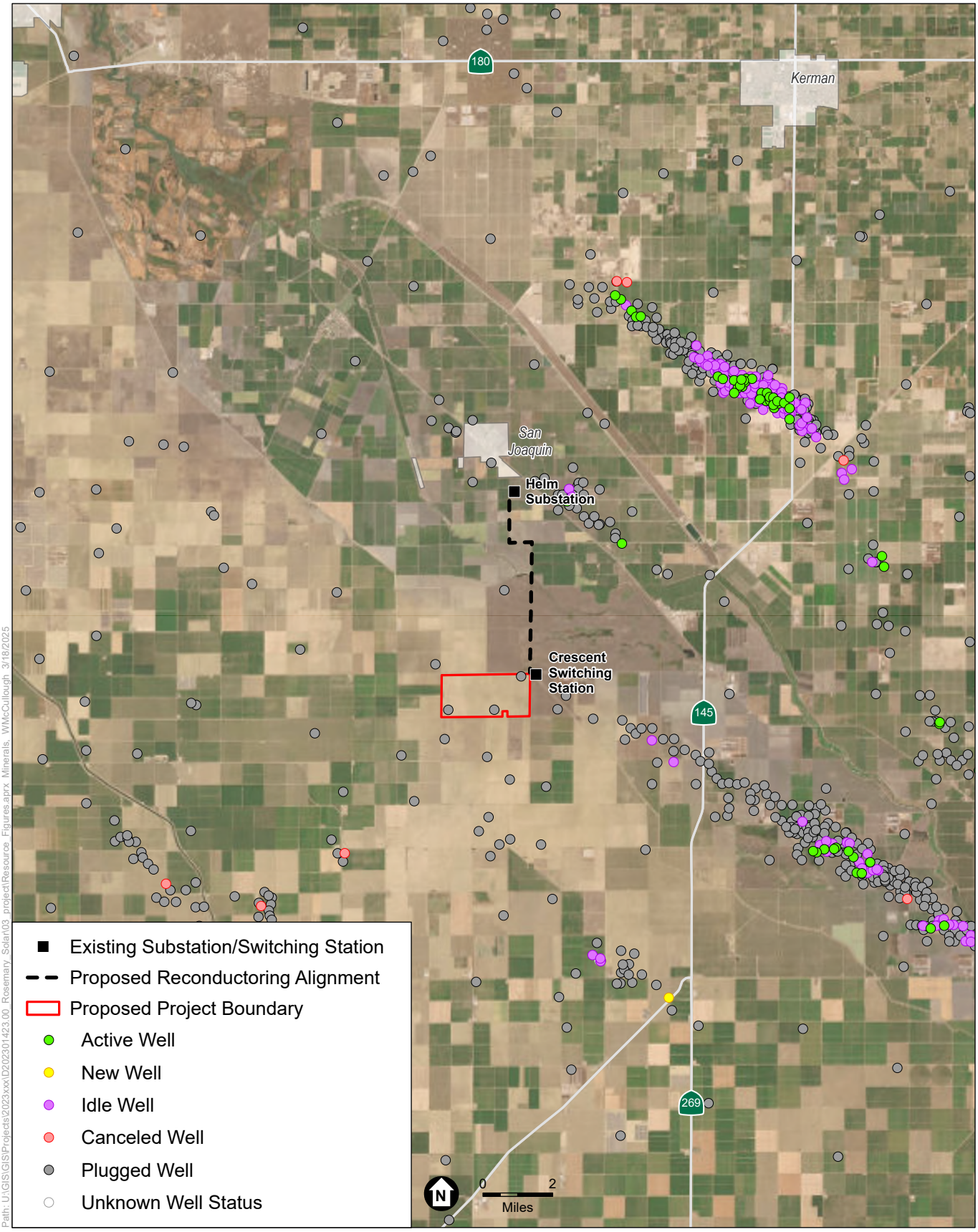
The California Surface Mining and Reclamation Act of 1975 (SMARA), as amended, was enacted by the California Legislature to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property and the environment. Among other things, SMARA develops mineral land classifications of resource areas within California. These classifications help identify and protect mineral resources in areas within the state that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. SMARA also provides for the designation of lands containing mineral deposits of regional or statewide significance. In compliance with SMARA, the State Mining and Geology Board established Mineral Resources Zones (MRZs) to classify lands that contain mineral deposits. 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 (Fresno County 2024).

Oil, Gas, and Geothermal Resources

The California Geologic Energy Management Division (CalGEM)[4] regulates the oil, natural gas, and geothermal industries, including the drilling, operation, and permanent closure of energy resource wells. CalGEM's online mapping application, Well Finder, was reviewed to determine the presence of any oil, gas, or geothermal resources in or around the Project site. There are approximately 36 plugged oil wells within a 2-mile radius of Project components, which indicates the historical presence of oil resources in the immediate vicinity (CalGEM 2025). Well Finder data indicate that there are three plugged dry holes within the Project site, as well as several in a 2-mile radius (CalGEM 2025). These wells are indicated on **Figure 3.13-1**, *Petroleum Oil or Natural Gas Wells Near the Project Site*, which shows active and previously active wells in the area.

The first of the three plugged dry holes within the Rosemary Project boundary is located in the northeast portion of the site (API 0401923804). This well was drilled by the Termo Company, plugged May 1, 1997, and never produced oil or natural gas. The surface plug extends from a depth of 30 to 5 feet below ground surface, and the top of the well was cut to 5 feet below grade (CalGEM 1997). The second of the plugged dry holes within the Rosemary Project boundary is located in the southeast quadrant of the Rosemary

[4] CalGEM formerly was known as the California Division of Oil, Gas, and Geothermal Resources.



Source: CA Dept of Conservation, Div. of Oil, Gas and Geothermal Resources, 2025; ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 3.13-1
Petroleum Oil or Natural Gas Wells Near the Project Site

ESA

Project site (API 0401923393). It was drilled by McFarland Energy, which is now owned by Chevron U.S.A. Inc., and never produced oil or natural gas. Surface plugging was completed on April 26, 1991, and was plugged with cement from 1600 feet to 1247 feet and capped at a depth of 30 feet to 5 feet below ground surface. The top of the well was cut to 5 feet below grade (CalGEM 1992). The third plugged hole within the Rosemary Project boundary is located in the lower southwest quadrant of the site (API 0401922131). It is a dry hole that never produced oil or natural gas. This well was plugged on December 18, 1984 with cement from 2,659 feet to 2,332 feet, and again from 1066 feet to 761 feet. The well was capped at a depth of 65 feet to 5 feet. The top of the well was cut to 5 feet below grade (CalGEM 1985).

3.13.1.3 Regulatory Setting

Federal

No federal statutes, regulations, plans, or policies govern mineral resources on or near the Project site.

State

State Surface Mining and Reclamation Act of 1975

SMARA (Public Resources Code Sections 2710–2796) and its implementing regulations (California Code of Regulations [Cal. Code Regs.] Title 14, Section 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. Section 3501). This includes aggregate (e.g., sand and gravel).

The California State Mining and Geology Board maps and regulates the locations of potential mineral resources in California consistent with SMARA. To protect these potential mineral resources, the Board has classified the regional significance of mineral resources into MRZs and mapped them. **Table 3.13-1**, *Descriptions of California Mineral Land Classification System Categories*, presents descriptions of the MRZ categories. The Project site is not within an area that has been given an MRZ designation (CGS 2025).

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: California State Mining and Geology Board 2000

Local

Fresno County General Plan

The Fresno County General Plan's Open Space and Conservation Element includes goals and policies intended to preserve the future availability of mineral resources in the County and to promote the orderly extraction of mineral resources in the county while minimizing the impact of these activities on surrounding land uses and the natural environment (Fresno County 2024). Relevant policies from this planning document include:

> **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 Incompatible Mining Uses.*** The County shall not permit incompatible land uses within the impact area of existing or potential surface mining areas.
>
> ***Policy OS-C.2 Mineral Resource Zones.*** The County shall not permit land uses incompatible with mineral resource recovery within areas designated as Mineral Resource Zone 2 (MRZ-2).
>
> ***Policy OS-C.9 Mineral Resource Zone Compliance.*** The County shall require that any proposed changes in land use within areas designated MRZ-2 along the San Joaquin and Kings Rivers comply with the provisions of the State Surface Mining and Reclamation Act (SMARA).
>
> ***Policy OS-C.10 Mineral Resource Lands Protection.*** The County shall not permit land uses that threaten the future availability of mineral resource or preclude future extraction of those resources.
>
> ***Policy OS-C.12 New Development Compatibility.*** The County shall ensure that new discretionary land use developments are compatible with existing and potential surface mining areas and operations as identified on the Mineral Resource Zone Maps prepared by the State Division of Mines and Geology and other mineral resource areas identified by the County.
>
> ***Policy OS-C.13 Oil and Gas Regulation Areas.*** Fresno County shall be divided into three areas for the regulation of oil and gas development.
>
> a) Urban areas including all land within one-fourth mile of the planned urban boundaries shown on adopted community plans.
>
> b) Established oil and gas fields as determined and updated by the California Division of Oil and Gas, excluding urban areas except where specifically included in these policies.
>
> c) Non-urban areas including all land not within either established oil and gas fields or urban areas. A non-urban area's designation shall be changed to an established oil and gas field designation upon: (1) its identification by the Division of Oil and Gas as an oil and gas field, and (2) subsequent approval by the County.

3.13.2 Significance Criteria

A project would result in significant impacts 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. However, none of the APMs or Standard Practices is focused on mineral resources.

3.13.3.2 Methodology

Mineral resources effects of the Project were 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 has been provided. This environmental analysis of the potential impacts on mineral resources is based on a review of the results of the review of literature and database research and the Fresno County General Plan.

3.13.3.3 Direct and Indirect Effects of the Project

The mineral resources analysis is based on location rather than temporal components, thus impacts under construction, operation and maintenance, and decommissioning are analyzed together under both the Rosemary Project as well as the PG&E Project. The impact analysis of the Project on mineral resources is presented below.

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.

Rosemary Project

The Rosemary 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. (*No Impact*)

As described above in Section 3.13.1, *Setting*, there are approximately 36 plugged wells within a 2-mile radius of the Project boundary, which indicates the historical presence of oil or natural gas resources in the immediate vicinity (CalGEM 2025). There are no active wells within the Rosemary Project site; the closest active well to the site is located approximately 2 miles southeast of the Helm Substation. Three plugged holes are present on the Rosemary Project site, indicating oil and/or natural gas resources once were thought to exist in the vicinity, although these locations never yielded any oil and/or natural gas resources. These results of past exploration indicate that the Rosemary Project site does not have economically viable quantities of oil or natural gas. Therefore, the Rosemary Project would not interfere with oil or natural gas extraction operations and would not result in the loss of land designated for the extraction of these mineral resources.

Regarding aggregates, review of available data from USGS, CGS, and Fresno County indicates that no significant aggregate or mining-related mineral resources are present within or near the Rosemary Project site. The Rosemary Project site is not located on lands classified as MRZs by the State of California, nor is it zoned a mineral resource zone by the Fresno County General Plan. The closest active mining claim is the Bass Avenue Material Site, which is located approximately 24 miles to the northwest. Construction, operation, and maintenance would occur in the Project footprint, and therefore would not interfere with mining operations, especially given the intervening distance between the Rosemary Project site and the mine.

Further ensuring that the Rosemary 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, the Rosemary Project owner would be required to restore the site to conditions comparable to pre-Project conditions at the end of the conditional use permit term. Therefore, even if significant mineral, oil, or natural gas resources were present at the site, the resources would continue to be available in the future.

PG&E Project

The PG&E 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. (*No Impact*)

According to the review of available data from USGS, CGS, and Fresno County, there are no active wells within, and no significant aggregate or mining-related mineral resources present within or near, the PG&E Project corridor, Helm substation or Crescent switching station. Further, there is only one active well within a 2-mile radius of the corridor: it is located approximately 2 miles southeast of the Helm Substation. The PG&E 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 also because the approximately 50-foot-wide corridor would not preclude the availability of surface or subsurface mineral resources should the County or the state require access to them. Minor upgrade work within substation facility boundaries 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.

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.

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. (*No Impact*)

Neither the Rosemary Project site nor the PG&E Project site has been identified as a locally important mineral resource recovery site delineated on the Fresno County General Plan or other land use plan. Therefore, implementation of the Project would result in **no impact** related to the loss of a locally important mineral resource. (*No Impact*)

3.13.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.13-2**, *Summary of Project Impacts on Mineral Resources*, summarizes the mineral resources impacts of the Project as a whole.

TABLE 3.13-2
SUMMARY OF PROJECT IMPACTS ON MINERAL RESOURCES

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

3.13.4 Cumulative Effects

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.

Because the Rosemary Project and the PG&E Project each would cause **no impact** relating to a loss of availability of a known mineral resource that would be of value to the region and the residents of the state, the Rosemary Project and the PG&E Project would not cause or contribute to any potential significant impact for criterion a). No cumulative impact would result. (*No Impact*)

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.

Because the Rosemary project and the PG&E Project each would cause **no impact** on the availability of known mineral resource recovery sites as delineated in a local plan, the Rosemary Project and the PG&E Project would not cause or contribute to any significant impact on such resources. No cumulative impact would result. (*No Impact*)

3.13.5 References

CalGEM (California Geologic Energy Management Division). 1985. *Division of Oil, Gas, and Geothermal Resources. Report of Well Plugging and Abandonment*. July 25, 1985.

CalGEM. 1992. *Division of Oil, Gas, and Geothermal Resources. Report of Well Plugging and Abandonment*. October 7, 1992.

CalGEM. 1997. *Division of Oil, Gas, and Geothermal Resources. Report of Well Plugging and Abandonment*. December 10, 1997.

CalGEM. 2025. CalGEM Well Finder, Interactive Map. Search term: "Helm." Available: https://maps.conservation.ca.gov/doggr/wellfinder/. Accessed March 12, 2025.

California State Mining and Geology Board. 2000. *California Surface Mining and Reclamation Policies and Procedures, Guidelines for Classification and Designation of Mineral Lands*.

CDMR (California Division of Mine Reclamation). 2025. Mines Online. Search term: "Helm." Available: https://maps.conservation.ca.gov/mol/index.html. Accessed March 12, 2025.

CGS (California Geological Survey). 2025. CGS Information Warehouse: Mineral Land Classification, Interactive Map. Available: https://maps.conservation.ca.gov/cgs/minerals/?page=Mineral-Land-Classification. Accessed March 12, 2025.

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USGS (U.S. Geological Survey). 2025. Mineral Resources Data System. Layers: USMIN Mineral Deposits; Mineral Resources (MRDS). Available: https://mrdata.usgs.gov/mrds/map-graded.html. Accessed March 12, 2025.

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3.14 Noise and Acoustics

This section evaluates issues related to noise and acoustics, including changes in ambient sound levels and groundborne vibration or groundborne noise levels. The 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.

This analysis is based in part on the Noise Technical Report for the Rosemary Project (**Appendix L1**) and the Noise Technical Report for the PG&E Project (**Appendix L2**). The preparers of this Draft EIR independently reviewed these and other materials prepared 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 the EIR. The County did not receive any scoping comments pertaining to noise and acoustics during the scoping period (see **Appendix A**, *Scoping Report*).

3.14.1 Setting

3.14.1.1 Study Area

Noise and vibration impacts were evaluated within a study area that encompasses the Rosemary Project and the PG&E Project sites along with the nearest potentially affected sensitive receptors for each. The nearest sensitive receptors are 6,200 feet (1.2 miles) from the Rosemary Project site and 80 feet from the PG&E Project site. Because all construction noise impacts would be less than significant beyond 1.2 miles, the study area conservatively captures areas of potential impact. Additionally, operational sources would generate lower noise levels than construction, therefore this study area is sufficient to address operational noise as well.

3.14.1.2 Environmental Setting

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 overall sound pressure level is the combination of all sound pressure levels across the measured sound frequency 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**, *Typical A-Weighted Sound Levels,* 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. Background 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, and 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:

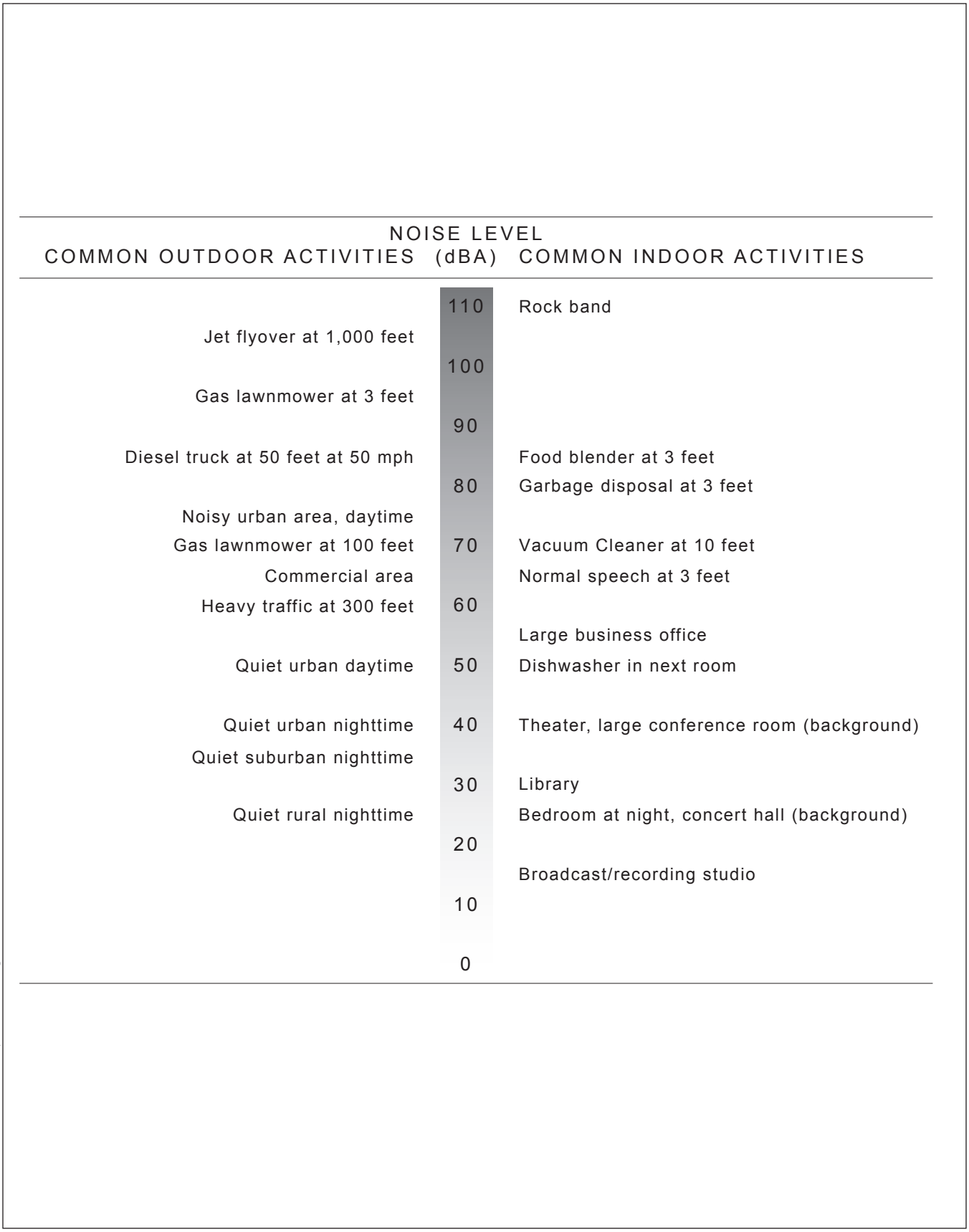
L_{eq}: The *equivalent sound level* is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level that would contain the same acoustic energy as the varying sound level during the same time period (i.e., the average noise exposure level for the given time period).

L_{dn}: The *day-night noise level* 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 L_{dn}, 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 maximum sound level that occurs during the noise measurement period.



D160635.00 - First Solar Little Bear\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Caltrans, 2013

Rosemary Solar and Energy Storage System Complex

Figure 3.14-1
Typical A-Weighted Sound Levels

ESA

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 greater 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 on buildings.

PPV is also appropriate for evaluating human response to groundborne vibration, as used in the California Department of Transportation (Caltrans) 2020 Transportation and Construction Vibration Guidance Manual (Caltrans 2020). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

Noise-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, or contemplate, also are sensitive to noise. Commercial and industrial uses are considered the least sensitive to noise.

There are no sensitive uses (e.g., residences, schools, or hospitals) within 1,000 feet of the Rosemary Project site; the nearest residence is approximately 1.2 miles to the northwest. There is one residence within 1,000 feet of the PG&E Project site, approximately 80 feet west of the transmission line.

Vibration-Sensitive Receptors

Vibration can be assessed through potential building damage and potential human annoyance. Certain types of buildings would typically be considered sensitive to vibration impact since building damage would be considered a negative effect. Fragile structures, which often include historic buildings, are most susceptible to damage and are of particular concern for vibration analysis.

Human annoyance effects from groundborne vibration are typically only considered inside occupied buildings, not at exterior areas such as residential yards, parks or other open spaces. Typically, buildings that would be considered sensitive to human annoyance caused by groundborne vibration are the same as those considered sensitive to noise impacts, including residences, schools, hospitals, churches, and public libraries.

The nearest off-site structures to the Rosemary Project site include silos and warehouses of a fertilizer manufacturing and supply facility 3,400 feet east of the Rosemary Project site. As a commercial/industrial

facility, it would not be considered sensitive to human annoyance effects from groundborne vibration, but the buildings would be considered sensitive to potential building damage. The next closest structure to the Rosemary Project site is the nearest residential home, approximately 6,200 feet to the northwest. This residence would be considered sensitive to both potential human annoyance and building damage effects.

The nearest off-site structure to the PG&E Project site is a residential home approximately 80 feet from the reconductoring project site. As a residential home, it would be considered sensitive to both potential human annoyance and building damage effects.

Noise Sources and Ambient Noise Levels

The Project site (including both the Rosemary Project and the PG&E Project) 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 local roadways, such as West Kamm Avenue. Additional noise sources that may affect the Project area include agricultural activity sources, industrial activity sources (e.g., associated with the existing fertilizer manufacturer/supplier), and distant aircraft. There are no public airports within 2 miles of the Project site. In the absence of ambient noise measurements, this analysis relies on the Fresno County Exterior Noise Standard (50 dBA between 7:00 a.m. and 10:00 p.m. and 45 dBA between 10:00 p.m. and 7:00 a.m.) as an assumed baseline for existing noise levels in the Project vicinity.

PG&E's existing Helm–Crescent 70 kV electric transmission line, which would be reconductored by the PG&E Project, falls within the range of voltage typically used for sub-transmission and transmission lines, which are designed to carry electricity. Therefore, the line would have energized conductors. The localized electric field near an energized conductor can be sufficiently concentrated to produce a small electric discharge, which can ionize air close to the conductors. This effect is called *corona*, and it is associated with all energized electric power lines. If the intensity of the electric field at the surface exceeds the insulating strength of the surrounding air, then a corona discharge occurs in the form of heat and energy dissipation. Corona can result in the production of small amounts of sound, radio noise, heat, and chemical reactions of air components. Modern power lines are designed, constructed, and maintained so that, during dry conditions, they operate below the corona inception voltage and generate minimal corona-related noise. Corona increases with humid and inclement weather (including dense fog), high pollution, and smoke from wildfires. Under these conditions, an audible hum and crackling noise may be heard (Electrical 4U 2024). Lower voltage lines (i.e., below 230 kV) emit lower levels of corona noise than higher voltage lines. Noise from corona discharge along the power line may be audible along the Helm–Crescent 70 kV electric transmission line.

3.14.1.3 Regulatory Setting

Federal

Construction Noise

No federal construction noise standards directly apply to the Project. As in the *Local* section below, there are also no quantitative local daytime standards that can be used to assess Project-related construction noise because daytime construction activities are exempt from the local municipal code noise standards. Therefore, while the Project would not be subject to Federal Transit Administration (FTA) oversight, guidance published by the agency nonetheless provides construction noise criteria that are useful in

establishing noise-related impact thresholds. The widely referenced FTA Transit Noise and Vibration Impact Assessment Manual (FTA 2018) provides criteria for the detailed analysis of construction noise based on the simultaneous operation of all proposed pieces of equipment expected to be operating during a single phase of construction. These FTA criteria are summarized in **Table 3.14-1**, *Federal Transit Administration Detailed Assessment Criteria for Construction Noise*. Although the Project would not be subject to FTA oversight, these criteria are used for the purposes of this analysis, in the absence of other applicable regulatory thresholds.

TABLE 3.14-1
FEDERAL TRANSIT ADMINISTRATION DETAILED ASSESSMENT CRITERIA FOR CONSTRUCTION NOISE

Land Use	L_{eq} (8-hour) (dBA)	
	Day	Night
Residential	80	70
Commercial	85	85
Industrial	90	90

SOURCE: FTA 2018

State

Noise

The Noise Element of the *State of California General Plan Guidelines*, most recently updated in 2017 by the Governor's Office of Planning and Research (OPR 2017), provides guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines are used for general land use planning that provides noise acceptability categories for different land uses considered by the state. Local government entities also are required by California to perform noise studies and implement a noise element as part of their general plans. The purpose of the noise element is to protect the community from noise problems by limiting exposure to excessive noise levels; the noise element must be used to guide decisions concerning land use. Relevant noise-related policies in the Fresno County General Plan (Fresno County 2024) are discussed below.

Vibration

No state vibration standards directly apply to the Project. As noted below, there are also no quantitative local standards that can be used to assess Project-related vibration. Therefore, while the Project would not be subject to California Department of Transportation (Caltrans) oversight, guidance published by the agency nonetheless provides groundborne vibration criteria that are useful in establishing thresholds of impact. The widely referenced *Caltrans Transportation and Construction Vibration Guidance Manual* (Caltrans 2020) provides guidance for two types of potential impact: (1) damage to structures, and (2) annoyance to people. Guideline criteria for each are provided in **Tables 3.14-2**, *Caltrans Guideline Vibration Damage Potential Criteria*, and **3.14-3**, *Caltrans Guideline Vibration Annoyance Potential Criteria*, below. Although the Project would not be subject to Caltrans oversight, these criteria are relied upon in this analysis, in the absence of applicable state and local regulatory thresholds.

TABLE 3.14-2
CALTRANS GUIDELINE VIBRATION DAMAGE POTENTIAL CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans 2020

TABLE 3.14-3
CALTRANS GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans 2020

Local

Noise

Fresno County General Plan

The Health and Safety Element of the Fresno County General Plan (Fresno County 2024) establishes policies and land use compatibility guidelines that protect noise sensitive receptors from exposure to harmful or annoying noise levels. The following policies established by the *Fresno County General Plan* are relevant to the Project:

> ***PF-J.2: Gas and Electric Systems.*** The County shall work with local gas and electric utility companies to design and locate appropriate expansion of gas and electric systems, while

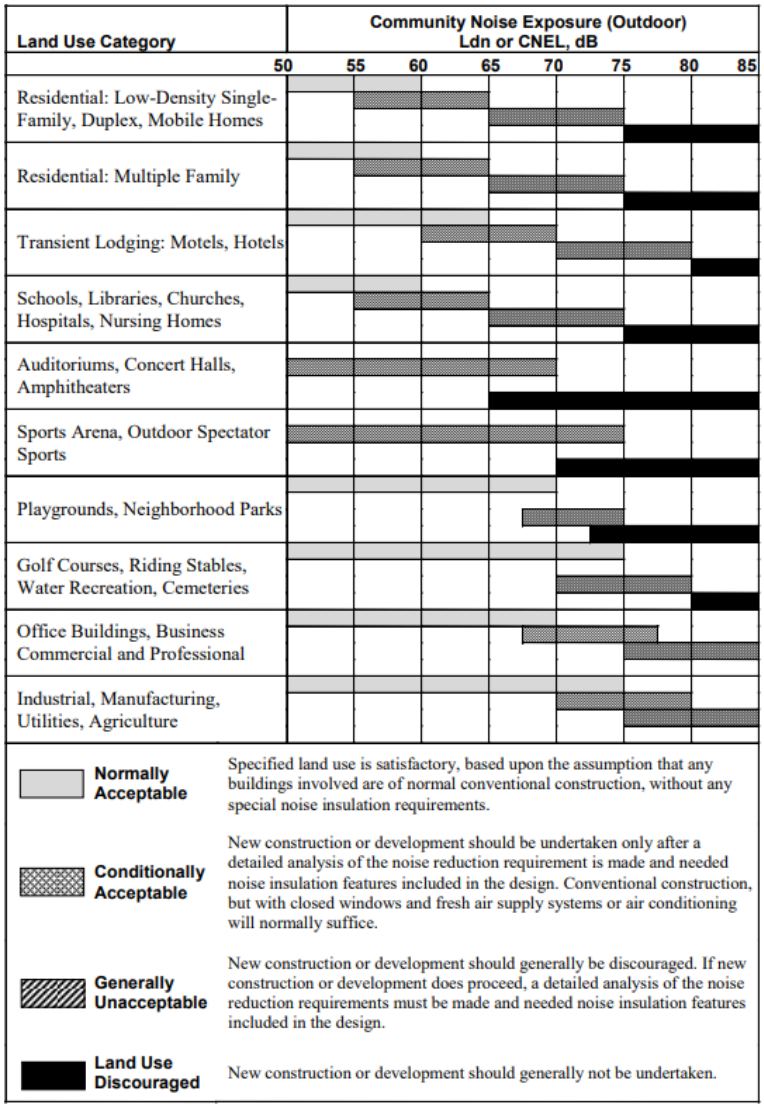
minimizing impacts to agriculture and minimizing noise, electromagnetic, visual, and other impacts on existing and future residents.

HS-H.1: Minimize Noise Impacts. The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.

HS-H.4: Noise Mitigation Design and Acoustical Analysis. 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 [**Table 3.14-4**, *Land Use Compatibility for Community Noise Environments*]: "Land Use Compatibility for Community Noise Environments;"

TABLE 3.14-4
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



a. 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.

HS-H.5: Noise Mitigation Measures. 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.

HS-H.6: Construction-related Noise. The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County's Noise Control Ordinance.

HS-H.8: Noise Levels Compatibility. The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to [Table 3.14-4], "Land Use Compatibility for Community Noise Environments."

Fresno County Ordinance Code

The Fresno County Code of Ordinances was adopted in August of 2024 and contains chapter 8.40 – Noise Control, which establishes noise standards, enforcement, and exemptions. The Project relevant Noise Control Ordinance sections are detailed below.

Section 8.40.040 – Exterior Noise Standards

a. It is unlawful for any person, including an owner, whether through the owner or the owner's agent, lessee, sublessor, sublessee or occupant, at any location within the unincorporated area of the county, to create any noise, or to allow the creation of any noise, on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any affected single- or multiple-family residence, school, hospital, church or public library situation in either the incorporated or unincorporated area to exceed the noise level standards as set forth in the following table [**Table 3.14-5**, *Fresno County Exterior Noise Standards*]:

TABLE 3.14-5
FRESNO COUNTY EXTERIOR NOISE STANDARDS

Category	Cumulative Number of minutes in any one-hour time period	Noise Level Standards, dBA	
		Daytime 7:00 AM to 10:00 PM	Nighttime 10:00 PM to 7:00 AM
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

SOURCE: Fresno County 2025

b. 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.

c. Each of the noise level standards specified above shall be reduced by five dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulse noises.

d. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards.

8.40.060 - Noise source exemptions

Section 8.40.060 provides exemptions for exterior noise standards detailed above.

b. Any mechanical device, apparatus or equipment used, related to or connected with emergency activities or emergency work;

c. Noise sources associated with construction, provided such activities do not take place before six a.m. or after nine p.m. on any day except Saturday or Sunday, or before seven a.m. or after five p.m. on Saturday or Sunday;

g. Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities

8.40.070 – Air conditioning and refrigeration

Noise associated with air conditioning and refrigeration systems shall not exceed 50 dBA for such equipment installed or in use after July 1, 1980.

8.40.090 – Electrical Substations

Noise sources associated with the operation of electrical substations shall not exceed 50 dBA

Vibration

Qualitative vibration standards are not established in either the Fresno County General Plan or the Fresno County Code of Ordinances. Policy HS-H.10 of the Fresno County General Plan identifies qualitative standard conditions of approval for projects involving construction vibration or nearby sensitive receptors. Standard conditions of approval stated in Policy HS-H.10 are as follows:

a. Avoid the use of vibratory rollers within 50 feet of historic buildings or residential buildings with plastered walls that are susceptible to damage from vibration and;

b. Schedule construction activities with the highest potential to produce vibration to hours with the least potential to affect nearby institutional, educational, and office uses that are identified as sensitive to daytime vibration by the Federal Transit Administration in Noise and Vibration Impact Assessment (FTA 2018).

Policy HS-H.10 does not establish quantitative criteria for assessing potential vibration impacts. Due to the remote nature of the Project site, there are no institutional, educational, or office uses near the Project site. As noted previously, in the absence of local quantitative criteria, Caltrans quantitative criteria are used to assess potential structural damage risks and human annoyance resulting from groundborne noise and vibration. Quantitative criteria developed by Caltrans for assessing vibration damage and annoyance are provided in Tables 3.14-2 and 3.14-3, above.

3.14.2 Significance Criteria

A project would result in significant impacts on noise and acoustics 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 Standard Practices

The Rosemery Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the APMs or Standard Practices is focused on noise and acoustics.

3.14.3.2 Methodology

This analysis evaluates potential noise and groundborne vibration impacts based on a review of sensitive receptors, estimated ambient noise levels, and projected noise and vibration levels that would be associated with construction, decommissioning, operation, and maintenance associated with the Rosemary Project, as well as the construction, operation, and maintenance of the PG&E Project. The following impact discussions are based, in part, on the Noise Technical Report for the Rosemary Project (Appendix L1) and the Noise Technical Report for the PG&E Project (Appendix L2). These documents were reviewed by preparers of the Draft EIR and determined to be suitable for reliance (in combination with other materials included in the formal record) in the preparation of this Draft EIR.

Rosemary Project

Short-term noise from construction and decommissioning activities associated with the Rosemary Project would cause a significant impact if the activities would conflict with local policies or standards. Rosemary Project-related construction activities, including traffic, 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. On infrequent occasions, construction activities may be scheduled outside of these hours to complete construction activities such as continuous concrete pours; to accommodate the schedule for system outages; or to address emergencies. To provide a quantitative assessment of construction noise that occurs during the exempt hours, daytime construction noise levels are compared to 80 dBA L_{eq}, the FTA detailed assessment criteria for construction noise for an 8-hour construction day presented in Table 3.14-1. During nighttime hours, construction would be required to adhere to the Fresno County exterior noise standards: 45 L_{eq} during the nighttime. Construction traffic

noise generated by the Rosemary Project would need to be below normally acceptable exterior noise levels at residential land uses (60 dBA L_{dn}), as provided in Table 3.14-4. Decommissioning is conservatively assumed to be similar in extent of noise producing activities as construction activities and, consequently, all construction-related impacts also would apply to decommissioning.

Long-term operation and maintenance noise impacts, associated with the Rosemary Project would be considered significant if Project-related noise would exceed the Fresno County exterior noise standards of 45 dBA L_{eq} during nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) or 50 dBA L_{eq} during daytime hours (i.e., 7:00 a.m. to 10:00 p.m.).

PG&E Project

Short-term noise from reconductoring for the PG&E Project would cause a significant impact if the activities would conflict with local policies or standards. PG&E Project-related 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. Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities also is exempt under the County Noise Ordinance. To provide a quantitative assessment of reconductoring noise that occurs during the exempt hours, daytime construction noise levels are compared to the FTA detailed assessment criteria for construction noise for an 8-hour construction day presented in Table 3.14-1. During nighttime hours, estimated noise levels from reconductoring activities are compared to the Fresno County exterior noise standards: 45 L_{eq} during the nighttime. Construction traffic noise generated by the PG&E Project is compared to the normally acceptable exterior noise levels at residential land uses (60 dBA L_{dn}).

The PG&E Project would cause no net change in long-term operation and maintenance noise relative to existing (baseline) conditions because the same activities and sources of noise would exist before and after the project is implemented.

3.14.3.3 Direct and Indirect Effects of the Project

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.

Impact 3.14-1: The Rosemary Project could generate temporary and permanent noise that would not exceed standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria. (*Less-than-Significant Impact*)

The Rosemary Project would generate temporary noise through construction activities, anticipated to last approximately 18 months. Construction for the Rosemary Project would be broken up into multiple construction phases: civil work, facility construction, and testing and commissioning. For a detailed list of construction equipment and noise levels, see the *Noise Technical Report for the Rosemary Project* (Appendix L1). During the anticipated construction timeline, construction equipment would incrementally increase noise levels in areas surrounding the Rosemary Project site. Construction would typically take place between 7:00 a.m. and 9:00 p.m., Monday through Friday, and 7:00 a.m. to 5:00 p.m. Saturday and

Sunday, which would fall entirely within the hours when construction noise is exempt from the Fresno County Code of Ordinances (i.e., 6:00 a.m. to 9:00 p.m. on weekdays and 7:00 a.m. to 5:00 p.m. on Saturday and Sunday). However, additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. These types of activities may include low-level noise activities such as refueling equipment, staging material for the following day's construction activities, working within enclosed structures, conducting quality assurance and control, and commissioning.

Construction noise that would occur during the exempt hours is compared to 80 dBA L_{eq}, the FTA detailed assessment criteria for construction noise over an 8-hour period presented in Table 3.14-1. Any work occurring outside of the exempted hours would be required to comply with Fresno County's exterior noise standards. This means Rosemary Project construction activities would be subject to the following County noise limits at noise sensitive receptors outside of the exempted hours:

- Construction noise may not exceed 45 dBA at noise sensitive receptors during nighttime hours, including:
  - Before 6:00 a.m. on weekdays;
  - After 10:00 p.m. on weekdays;
  - Before 7:00 a.m. on Saturday and Sunday; and,
  - After 10:00 p.m. on Saturday and Sunday.
- Construction noise may not exceed 50 dBA at noise sensitive receptors during the following hours outside of exempted construction hours:
  - Between 9:00 p.m. and 10:00 p.m. on weekdays; and,
  - Between 5:00 p.m. and 10:00 p.m. on Saturday and Sunday.

Construction activities outside of the exempted hours would exclude the use of pneumatic tools for driving solar foundation support posts (i.e., post drivers), auger drill rigs, and scrapers. These construction activities may also include refueling equipment, staging material for the following day's construction activities, quality assurance/control, security patrols, and commissioning.

Decommissioning and site restoration are conservatively assumed to be similar in extent of noise producing activities as construction activities and, consequently, all construction-related impacts also would apply to decommissioning and site restoration at the end of the assumed project life.

Table 3.14-6, *Rosemary Project Average Composite 8-Hour Construction Equipment Noise Levels*, details average 8-hour construction equipment noise levels at 50 feet and the adjusted levels for 6,200 feet to the nearest sensitive receptor to the Rosemary Project site, which is a residence. When adjusted for the distance to the nearest residence, noise levels from construction equipment range between 31 and 39 dBA L_{eq}, which would be less than both the County's 50 dBA daytime and 45 dBA nighttime noise standards.

TABLE 3.14-6
ROSEMARY PROJECT AVERAGE COMPOSITE 8-HOUR CONSTRUCTION EQUIPMENT NOISE LEVELS

Construction Phase	L_{eq} at 50 feet, dBA	L_{eq} at Nearest Residential Land Use (6,200 feet), dBA
Civil Work	91	39
Facility Construction	88	36
Testing and Commissioning	91	39
Adjusted Testing and Commissioning[a]	84	31

NOTE:
a. This phase does not include post drivers, auger drill rigs, or scrapers.
SOURCE: Appendix L1

At worst-case, construction equipment associated with the testing and commissioning phase would generate 39 dBA L_{eq} at the nearest sensitive receptor, which is well below FTA's 80 dBA L_{eq} daytime residential noise criterion and below the County's 50 dBA daytime and 45 dBA nighttime noise standards. Therefore, Rosemary Project impacts related to construction equipment noise would be **less than significant**.

Construction vendor and haul trucks associated with transporting workers, equipment and materials to and from the Rosemary Project site would incrementally increase noise levels on the local roads in the Rosemary Project area. Based on information provided by the Applicant, most traffic would occur during the facility construction phase, with up to 204 automobile, 50 vendor truck, and 40 haul truck one-way trips per day. Construction traffic noise levels were conducted using a proprietary traffic noise model, with calculations based on data from the FHWA Traffic Noise Model, Version 2.5, Look-Up Tables (Appendix L1). The model allows for calculating noise levels at specific distances from the center of roadways based on traffic volumes, average speeds, and site environmental conditions. Noise generated by construction traffic along local roadways was estimated to be 57 dBA L_{dn} at a distance of 50 feet from the roadway center and would not exceed the 60 dBA L_{dn} standard for transportation noise sources for residential land uses. Additionally, vendor and haul truck pass-by noise has been measured to be 84 dBA at 50 feet, but these noises would be short in duration and would dissipate quickly as the truck drives further away. For these reasons, Rosemary Project impacts related to construction traffic noise would be considered **less than significant**.

Operational noise associated with the Rosemary Project would be generated by on-site electrical equipment, gen-tie lines, emergency backup generators, and on-site maintenance activities. On-site electrical equipment (solar arrays, battery ESS, and substations) would generate an estimated composite noise level of approximately 96 dBA at 50 feet, which attenuates to approximately 44 dBA at the nearest sensitive receptor (6,200 feet). These noise levels comply with the 50 dBA daytime and 45 dBA nighttime noise standards set by Fresno County. Therefore, Rosemary Project impacts associated with on-site operations would be **less than significant**.

The gen-tie line could range from 800 linear feet to two linear miles in length along the northern Project border. Overhead electrical lines, where constructed, would emit noise levels associated with corona

discharge, which is an electrical discharge that ionizes the surrounding air. The noise associated with corona discharge is typically described as a crackling or humming sound. Based on data from a previous solar energy generation project noise study (Ambient Air Quality & Noise Consulting 2015), noise levels from transmission line corona discharge are approximately 25 dBA at a distance of 25 feet (based on a 230-kilovolt line), which would be much lower at 6,200 feet to the nearest sensitive receptor and lower still with a lower voltage line. These noise levels are well below the 50 dBA daytime and 45 dBA nighttime noise standards set by Fresno County. Therefore, the impacts associated with the gen-tie line would be **less than significant**.

Emergency backup generators would be diesel powered with a capacity of 500 kW. Although the final makes and models of the generators have not been selected, specification data for similar generators can be used to estimate generator noise. Should multiple generators adding up to a total power capacity of 500 kW be selected for the Rosemary Project, it is assumed that these could be tested simultaneously. Based on the example generator specification data, a 500-kW generator could produce an unattenuated noise level of 101.5 dBA at 50 feet, including both engine and exhaust noise (Cummins 2019a). Smaller capacity generators, such as the Cummins 250DQDAA, would typically generate lower noise levels (Cummins 2019b). This analysis presents modeled noise levels for a single 500 kW generator as a conservative estimate of generator testing noise. The location of the proposed generator has not been identified at this time. To conduct a conservative analysis, it is assumed that the generator could be placed at any point on the Rosemary Project site (i.e., at the closest point to off-site sensitive land uses). At the nearest sensitive receptor (6,200 feet) the emergency generators noise levels would be approximately 49 dBA, which is lower than the 50 dBA daytime noise level standard set by Fresno County. Because emergency generators would only be tested during daytime hours, the impacts from testing emergency generators would be **less than significant**.

On-site maintenance activities would include panel repairs; panel washing; maintenance of transformers, inverters, and other electrical equipment; maintenance of the oil/water separator system; and road and fence repairs. Equipment repairs would take place in the early morning or evening when the plant would be producing the least energy. Crews would wash panels two to three times per year. The plant manager and maintenance staff would perform visual site inspections and monitor the Rosemary Project site to deter theft and vandalism during daylight hours. Noise associated with the maintenance of the Rosemary Project site is not anticipated to significantly increase ambient noise levels in the vicinity. Likely equipment used during maintenance activities would include, but are not limited to, a pick-up truck and a power washer. At a distance of 50 feet, a pick-up truck would produce a noise level of 75 dBA and a power washer would produce a noise level of 78 dBA. At 6,200 feet to the nearest sensitive receptor, these equipment pieces would generate, at worst, 25 dBA, which is well below the 50 dBA daytime and 45 dBA nighttime noise standards set by Fresno County. Therefore, the impacts associated with on-site operation and maintenance would be **less than significant**.

Operational traffic associated with eight full-time and 16 part-time employees traveling to and from the Rosemary Project site would generate up to 48 one-way vehicle trips. The noise levels generated by this level of traffic is estimated to be 49 dBA L_{dn} (at 50 feet from the road), which would not exceed the 60 dBA L_{dn} standard for transportation noise sources. Assuming an employee drives a pick-up truck to the Rosemary Project site, pass-by noise has been measured to be 75 dBA at 50 feet, but the noise would be

short in duration and would dissipate quickly as the vehicle drives further away. For these reasons, noise impacts from operational traffic would be **less than significant**.

Mitigation: None required.

Impact 3.14-2: The PG&E Project would generate temporary and permanent noise that would not exceed standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria. (*Less-than-Significant Impact*)

The PG&E Project would generate temporary noise through construction activities, anticipated to last 15 months. Reconductoring would be broken up into multiple construction phases: mobilization and preparation of temporary construction yards, existing line removal of wood poles, foundation installation, pole assembly and erection, wire stringing, and clean up and restoration. For a full list of construction equipment and noise levels, see Noise Technical Report for the PG&E Project (Appendix L2). During this time, construction equipment and construction traffic would incrementally increase noise levels in areas surrounding the PG&E Project site. It is assumed that construction activities, including traffic, would take place between 7:00 a.m. and 9:00 p.m., Monday through Friday, and 7:00 a.m. to 5:00 p.m. Saturday and Sunday, which would fall entirely within the hours when construction noise is exempt from the Fresno County Code of Ordinances (i.e., 6:00 a.m. to 9:00 p.m. on weekdays and 7:00 a.m. to 5:00 p.m. on Saturday and Sunday). Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities also is exempt under the County Noise Ordinance. Therefore, construction noise levels are assessed against the FTA's daytime construction noise criteria of 80 dBA L_{eq} (8-hour).

Table 3.14-7, *PG&E Project Average Composite 8-Hour Construction Equipment Noise Levels*, details the average composite 8-hour noise levels at the nearest sensitive receptor associated with each construction phase of the PG&E Project. Noise levels were initially calculated with a reference distance of 50 feet and then adjusted to account for the nearest sensitive receptor, 80 feet from the PG&E Project site.

TABLE 3.14-7
PG&E PROJECT AVERAGE COMPOSITE 8-HOUR CONSTRUCTION EQUIPMENT NOISE LEVELS

Construction Phase	L_{eq} at 50 feet, dBA	L_{eq} at Nearest Residential Land Use (80 feet), dBA
Mobilization and Preparation of Temporary Construction Yards	78	73
Existing Line Removal of Wood Poles, Conductor and Distribution Equipment	77	72
Foundation Installation	77	72
Pole Assembly and Erection	76	71
Wire Stringing	81	76
Clean Up and Restoration	76	71

At worst-case the construction equipment associated with the wire stringing phase would generate 76 dBA L_{eq} at the nearest sensitive receptor, which is below the 80 dBA L_{eq} daytime noise standard for residential uses. Construction work associated with the PG&E Project also would not be located in a single location for long periods of time but would move along the transmission line as upgrades are

installed. Noise associated with construction activities would be temporary at any single location. Therefore, the impacts related to construction equipment noise would be **less than significant**.

Construction vendor and haul trucks associated with transporting workers, equipment and materials to and from the PG&E Project site would incrementally increase noise levels on the local roads in the area. Based on information provided by the Applicant, the most daily trips generated by the PG&E Project would be 18 one-way automobile trips and six one-way haul truck trips. Noise generated by construction traffic was estimated to be 49 dBA L_{dn} for residential land uses and would not exceed the 60 dBA L_{dn} standard for transportation noise sources. Additionally, vendor and haul truck pass-by noise has been measured to be 84 dBA at 50 feet, but the noise would be short in duration and would dissipate quickly as the truck drives further away. For these reasons, impacts related to construction traffic noise would be considered **less than significant**.

The PG&E Project would reconductor existing power lines and upgrade the Helm Substation and Crescent Switching Station, but would not extend lines or service where none currently exist. Once reconductoring is complete, operational noise associated with the PG&E Project would be substantially the same as under existing (baseline) conditions. However, the new conductor would be free of particulate matter buildup and more efficient at conducting electricity with minimal energy loss, which minimizes corona discharge. Therefore, corona noise generated during operation of the PG&E Project would be the same or less than existing conditions. Therefore, operation and maintenance of the PG&E Project would have a **less-than-significant impact**.

Mitigation: None required.

Criterion b) Whether the Project would generate excessive groundborne vibration or groundborne noise levels.

Impact 3.14-3: The Rosemary Project could expose people and/or structures to vibration levels. (*Less-than-Significant Impact*)

Temporary sources of groundborne vibration and noise during land grading, trenching, and other construction and decommissioning activities for the Rosemary Project would be produced by the operation of heavy construction equipment. Decommissioning is assumed to use similar equipment types causing comparable vibration levels to construction activities. The construction equipment most likely to create vibration includes large and small bulldozers, post drivers, and vibratory rollers. Because Fresno County does not have a quantitative vibration threshold for human annoyance potential or building damage potential, vibration from the Rosemary Project is compared to the Caltrans vibration criteria.

Construction-related vibration resulting from the Rosemary Project was analyzed using data and modeling methodologies provided by Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020). Vibration levels from construction activities were estimated at the nearest off-site structures (3,400 feet [fertilizer manufacturing and supply facility] and 6,200 feet [residence] from the Rosemary Project site). As shown in **Table 3.14-8**, *Estimated Groundborne Vibration from Rosemary Project Construction*, vibration level estimates for the Rosemary Project are well below the 0.25 in/s threshold for potential building damage of historic and some older residential structures. It is predicted

that groundborne vibration, under the worst-case construction conditions, would fall below the barely perceptible range at the nearest receivers. At further distances, vibration levels would continue to decrease.

TABLE 3.14-8
ESTIMATED GROUNDBORNE VIBRATION FROM ROSEMARY PROJECT CONSTRUCTION

Receptor	Distance to Closest Construction, feet	Range of Estimated PPV, in/s	Human Response
Fertilizer Manufacturing and Supply Facility	3,400	<0.001–0.001	None (below barely perceptible)
Residential Structure	6,200	<0.001–0.001	None (below barely perceptible)

Based on the vibration levels presented above, the Rosemary Project (including construction, operation and maintenance activities that require heavy construction equipment, and decommissioning) would not generate or expose the analyzed sensitive receptors to excessive groundborne vibration or groundborne noise levels and the impact would be **less than significant**.

Mitigation: None required.

Impact 3.14-4: The PG&E Project could expose people and/or structures to vibration levels. (*Less-than-Significant Impact*)

Temporary sources of groundborne vibration and noise during land grading, trenching, and other reconductoring-related construction activities for the PG&E Project would be produced by the operation of heavy construction equipment. The construction equipment most likely to create vibration include large and small bulldozers, and caisson drills. Because Fresno County does not have a quantitative vibration threshold for human annoyance potential or building damage potential, vibration from the PG&E Project is compared to the Caltrans vibration criteria.

Construction-related vibration resulting from the PG&E Project was analyzed using data and modeling methodologies provided by Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020) Vibration levels from construction activities were estimated at the nearest sensitive receptor (80 feet from the PG&E Project Site). As shown in **Table 3.14-9**, *Estimated Groundborne Vibration from PG&E Project Construction*, vibration level estimates for the PG&E Project would be well below the applicable 0.25 in/s threshold for potential building damage. It is predicted that groundborne vibration, under the worst-case construction conditions, would fall within the barely perceptible range at the nearest receivers. At further distances, vibration levels would continue to decrease.

TABLE 3.14-9
ESTIMATED GROUNDBORNE VIBRATION FROM PG&E PROJECT CONSTRUCTION

Receptor	Distance to Closest Construction, feet	Range of Estimated PPV, in/s	Human Response
Residential Structure	80	0.001–0.025	Barely perceptible

Once reconductoring is complete, vibration generated by the PG&E Project would be substantially similar to existing (baseline) conditions because the activities required during operation and maintenance would be the same as those that occur to operate and maintain the existing line. Based on the vibration levels presented above, implementation of the PG&E Project would not generate or expose the analyzed sensitive receptors to excessive groundborne vibration or groundborne noise levels.

Mitigation: None required.

Criterion c) Whether the Project would, 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.

The Rosemary Project would not be 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, and so no impact would result. (*No Impact*)

The PG&E Project would not be 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, and so **no impact** would result. (*No Impact*)

3.14.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.14-10**, *Summary of Project Impacts on Noise and Acoustics*, summarizes the impacts of the Project as a whole on noise and acoustics.

TABLE 3.14-10
SUMMARY OF PROJECT IMPACTS ON NOISE AND ACOUSTICS

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

3.14.4 Cumulative Effects

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.

Impact 3.14-1c: The Rosemary Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the generation of temporary or permanent noise in excess of standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria. (*Less-than-Significant Impact*)

The geographical study area for this assessment of cumulative effects of noise impacts is the area within 0.5 mile of the Rosemary Project site and PG&E Project site because sounds naturally attenuate with distance and topography.[1] The temporal scope for potential cumulative noise impacts begins with the initiation of on-site construction activities and ends with the conclusion of on-site work for decommissioning. As stated above, the Rosemary Project would not result in a significant impact with respect to temporary and permanent ambient noise increases. Among the projects identified in Section 3.1, *Introduction to Environmental Analysis,* and as listed in Figure 3.1-1, there are no projects that are within this geographic scope. At the closest, the currently operational San Joaquin Solar project would be 1 mile east of the Rosemary Project site.

Given the intervening distance between the Rosemary Project site and the nearest sensitive receptor and because the incremental impact of the project would not combine with the impacts of other projects in the relevant geography, there is no possibility the noise from construction, operation, and decommissioning of the Rosemary Project could combine with the noise from other projects to cause or contribute to a significant cumulative effect. The Rosemary Project's cumulative effect would be **less than significant**.

Mitigation: None required.

Impact 3.14-2c: The PG&E Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the generation of temporary or permanent noise in excess of standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria. (*Less-than-Significant Impact*)

The geographical study area for this assessment of cumulative effects of noise impacts is the area within 0.5-mile of the PG&E reconductoring site because sounds naturally attenuate with distance and topography.[2] The temporal scope for potential cumulative effects begins with the initiation of on-site construction activities and would continue in perpetuity, since the project would not be decommissioned. As stated above, the PG&E Project would not result in a significant impact with respect to temporary and permanent ambient noise increases. Among the projects identified in Section 3.1, *Introduction to Environmental Analysis,* and as listed in Figure 3.1-1, there are no projects that are within this geographic

[1] Noise typically attenuates at approximately 7.5 dBA per doubling of distance in soft environments (Caltrans 1998)

[2] Noise typically attenuates at approximately 7.5 dBA per doubling of distance in soft environments (Caltrans 1998)

scope. At the closest, the currently operational San Joaquin Solar project would be 1 mile east of the PG&E Project site.

Given the intervening distance between the PG&E Project site and the nearest sensitive receptor and because the incremental impact of the project would not combine with the impacts of other projects in the relevant geography, there is no possibility the noise from construction, operation or maintenance of the PG&E Project could combine with the noise from other projects to cause or contribute to a significant cumulative effect. The PG&E Project's cumulative effect would be **less than significant**.

Mitigation: None required.

Criterion b) Whether the Project would generate excessive groundborne vibration or groundborne noise levels.

Impact 3.14-3c The Rosemary Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the exposure of people and/or structures to vibration levels. (*Less-than-Significant Impact*)

The geographical study area for this assessment of cumulative effects of vibration impacts is the area within 1,000 feet of the Rosemary Project site because vibration naturally attenuates with distance and topography.[3] The temporal scope for potential cumulative vibration impacts begins with the initiation of on-site activities for construction and ends with the conclusion of on-site work for decommissioning. As stated above, the Rosemary Project would not result in a significant impact in respect to excessive vibration from construction and operational activities. Among the projects identified in Section 3.1, *Introduction to Environmental Analysis,* and as listed in Figure 3.1-1, there are no projects that are within this geographic scope. At the closest, the currently operational San Joaquin Solar project would be 1 mile east of the Rosemary Project site.

Due to the distance between the San Joaquin Solar project and the Project site, there is no possibility that vibration generated by construction, operation, and decommissioning of the Rosemary Project could combine with vibration generated by other projects to cause or contribute to a significant cumulative effect. Therefore, the cumulative vibration effect associated with the Rosemary Project would be **less than significant**.

Mitigation: None required.

Impact 3.14-4c: The PG&E Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the exposure of people and/or structures to vibration levels. (*Less-than-Significant Impact*)

The geographical study area for this assessment of cumulative effects of vibration impacts is the area within 1,000 feet of the PG&E Project site because vibrations naturally attenuate with distance and

[3] Based on worst-case vibration calculations, a pile driver would generate 0.01 PPV at 1000 feet, which is considered barely perceptible and well below the Caltrans vibration impact thresholds.

topography.[4] The temporal scope for potential cumulative effects begins with the initiation of on-site construction activities and would continue in perpetuity, since the project would not be decommissioned. As stated above, the PG&E Project would not result in a significant impact in respect to excessive vibration from construction and operational activities. Among the projects identified in Section 3.1, *Introduction to Environmental Analysis,* and as listed in Figure 3.1-1, there are no projects that are within this geographic scope. At the closest, the currently operational San Joaquin Solar project would be 1 mile east of the PG&E Project site.

Due to the distance between the San Joaquin Solar project and the Project site, there is no possibility that vibration generated by construction, operation, and decommissioning of the PG&E Project could combine with vibration generated by other projects to cause or contribute to a significant cumulative effect. Therefore, the cumulative vibration effect associated with the PG&E Project would be **less than significant**.

Mitigation: None required.

Criterion c) Whether the Project would, 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.

As analyzed in the context of criterion c) in Section 3.14.3.3, *Direct and Indirect Effects of the Project*, the Project (including the Rosemay Project and the PG&E Project) would cause no impact with respect to exposure of people residing or working within the vicinity of a private airstrip, public airport, or public use airport in the Rosemary Project area. Because the Rosemay Project and the PG&E Project would cause **no impact** on these considerations, it could not cause or contribute to any cumulative effect regarding criterion c).

Mitigation: None required.

3.14.5 References

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[4] Based on worst-case vibration calculations, a pile driver would generate 0.01 PPV at 1000 feet, which is considered barely perceptible and well below the Caltrans vibration impact thresholds.

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3.15 Population and Housing

This section identifies and evaluates issues related to population and housing, including the potential for population growth and the displacement of existing people or housing as a result of the Project. 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 comments regarding 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 to population and housing includes the Project site and the communities within 75 miles of the Project site (within and beyond Fresno County in the Fresno and Hanford–Corcoran metropolitan statistical areas). This represents the maximum reasonable distance that Project construction and other workers would reasonably be expected to travel for work at the Project sites. See generally, **Figure 2-1**, *Project Location*, in Chapter 2, *Project Description*. The study area aligns with Fresno County's Solar Facility Guidelines, discussed in more detail in Section 3.15.1.3, *Regulatory Setting*.

3.15.1.2 Environmental Setting

Population

The Project site (i.e., the Rosemary Project site plus the PG&E Project site) is located in an unincorporated area of Fresno County in the San Joaquin Valley. Population estimates for Fresno County and the cities within the study area are identified in **Table 3.15-1**, *Historic and Existing Population in the Study Area*. The following discussion provides population information and estimates from the areas where it is most likely that commuters would travel from to reach the Project site for construction, operation and maintenance (O&M), and for decommissioning of the Rosemary Project.

TABLE 3.15-1
HISTORIC AND EXISTING POPULATION IN THE STUDY AREA

Area	2000[a]	2005[a]	2010[a]	2015[b]	2024[c]
Fresno County	799,407	866,058	930,450	975,108	1,017,431
Kings County	129,461	143,607	152,982	149,275	152,627
City of Fresno	427,719	457,786	494,665	522,016	546,971
City of San Joaquin	3,270	3,569	4,001	4,063	3,616
City of Mendota	7,890	9,179	11,014	11,235	12,531
City of Kerman	8,548	10,985	13,544	14,584	17,256
City of Firebaugh	5,743	6,953	7,549	7,827	8,415
City of Huron	6,310	6,343	6,754	6,887	6,348
City of Coalinga	15,798	16,566	18,087	16,467	17,107
City of Avenal	14,674	15,898	15,505	12,950	13,981
City of Lemoore	19,712	21,893	24,351	25,252	26,855
City of Hanford	41,687	48,016	53,967	55,844	59,286

Area	2000[a]	2005[a]	2010[a]	2015[b]	2024[c]
City of Corcoran	20,843	22,029	24,748	22,133	21,633
City of Kingsburg	9,231	11,105	11,382	11,899	13,042
City of Selma	19,444	22,160	23,219	23,898	24,371
City of Fowler	3,979	4,602	5,561	5,928	7,367
City of Sanger	18,931	21,297	24,270	25,246	26,357
City of Madera	43,205	51,735	61,416	63,147	66,560
City of Dos Palos	4,385	4,797	4,950	5,141	5,633
City of Clovis	68,516	84,552	95,631	105,038	126,133
City of Reedley	20,756	21,447	24,194	25,542	25,653
City of Dinuba	16,844	18,989	21,453	24,135	25,573
City of Visalia	91,891	106,054	124,442	130,627	144,532
City of Tulare	43,994	48,974	59,278	62,407	70,799
City of Exeter	9,168	10,089	10,334	10,731	10,179
City of Woodlake	6,653	6,832	7,279	7,606	7,713
City of Lindsay	10,297	10,940	11,768	12,637	12,594
City of Chowchilla	14,416	16,052	18,720	18,626	18,930
City of Merced	63,893	72,402	78,958	82,379	91,837
City of Atwater	23,113	26,829	28,168	29,555	31,397
City of Livingston	10,473	11,818	13,058	13,983	14,286
City of Newman	7,092	8,798	10,224	10,809	12,121
City of Gustine	4,698	5,416	5,520	5,715	5,936
City of Porterville	39,615	44,758	54,165	55,861	62,934
City of Delano	39,499	44,353	53,041	52,070	52,484
City of Greenfield	12,648	12,481	16,330	17,208	20,561
City of King City	11,204	11,727	12,874	13,762	14,216
City of Soledad	23,015	26,099	25,738	24,663	26,966
City of Paso Robles	24,297	27,863	29,793	30,992	30,907
City of Atascadero	26,411	27,497	28,310	29,909	30,279
City of Gonzales	7,564	7,927	8,187	8,461	8,466
City of Hollister	34,424	35,476	34,928	37,324	42,872

NOTE: Population estimates and projections are not available from the California Department of Finance for unincorporated communities separate from the countywide population estimates and projections.

SOURCES:

a. DOF 2012.
b. DOF 2022.
c. DOF 2024a.

As shown, most jurisdictions near the Project site experienced population growth between 2000 and 2024. In 2024, Fresno County had an estimated population of 1,017,431, an increase of approximately 27 percent from the 2000 population of 799,407. The City of Fresno had an estimated population of 546,971 in 2024, an increase of approximately 28 percent from 2000, when it had a population of 427,719. Neighboring

Kings County had an estimated population of 152,627 in 2024, an increase of approximately 18 percent from the 2000 population of 129,461.

In 1970, the San Joaquin Valley accounted for 8.2 percent of California's total population and, as of 2018, has grown to account for 11 percent of California's total population (Fresno COG 2018). By 2050, the San Joaquin Valley is projected to capture 15 percent of the state's population.

Housing

Table 3.15-2, *2024 Housing Data Estimates*, summarizes housing data for Fresno County and the cities in the study area in 2024. Vacancy rates for these jurisdictions ranged from 1.5 percent (City of Mendota) to 7.8 percent (City of Coalinga). As of January 1, 2024, Fresno County had an estimated 349,217 housing units with a vacancy rate of 5.6 percent.

TABLE 3.15-2
2024 HOUSING DATA ESTIMATES

Area	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Vacancy Rate (percent)
Fresno County	349,217	329,640	19,577	5.6
City of Fresno	190,078	181,528	8,550	4.5
City of San Joaquin	937	904	33	3.5
City of Mendota	2,926	2,883	43	1.5
City of Kerman	4,973	4,869	104	2.1
City of Firebaugh	2,365	2,255	110	4.7
City of Huron	1,704	1,650	54	3.2
City of Coalinga	4,658	4,293	365	7.8
City of Avenal	2,618	2,510	108	4.1
City of Lemoore	9,633	9,294	339	3.5
City of Hanford	20,713	19,989	724	2.9
City of Corcoran	4,292	4,074	218	5.1
City of Kingsburg	4,756	4,586	170	3.6
City of Selma	7,282	7,059	223	3.1
City of Fowler	2,398	2,303	95	4.0
City of Sanger	7,894	7,380	514	3.3
City of Madera	18,765	18,227	538	2.9
City of Dos Palos	1,804	1,724	80	4.4
City of Clovis	47,248	45,287	1,961	4.2
City of Reedley	7,628	7,380	248	3.3
City of Dinuba	7,351	7,124	227	3.6
City of Visalia	50,951	48,973	1,978	3.9
City of Tulare	22,599	21,801	798	3.5
City of Exeter	3,695	3,512	183	5.0
City of Woodlake	2,384	2,278	106	4.4

Area	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Vacancy Rate (percent)
City of Lindsay	3,641	3,525	116	3.2
City of Chowchilla	4,562	4,373	189	4.1
City of Merced	31,997	30,209	1,788	5.6
City of Atwater	10,477	10,146	331	3.2
City of Livingston	3,879	3,802	77	2.0
City of Newman	3,765	3,668	97	2.6
City of Gustine	2,157	2,046	111	5.1
City of Porterville	19,429	18,641	788	4.1
City of Delano	12,406	11,915	491	4.0
City of Greenfield	4,800	4,667	133	2.8
City of King City	3,733	3,536	197	5.3
City of Soledad	4,755	4,672	83	1.7
City of Paso Robles	12,570	11,891	679	5.4
City of Atascadero	12,506	11,937	569	4.5
City of Gonzales	2,103	2,057	46	2.2
City of Hollister	13,157	12,857	300	2.3

SOURCE: DOF 2024b.

Employment

The California Employment Development Department (EDD) estimated that the unemployment rate in Fresno County was 7.9 percent in December 2024, which is below the year-ago estimate of 8.1 percent (EDD 2025). This can be compared to the relatively unadjusted unemployment rate of 5.2 percent for the State of California and 3.8 percent for the nation during the same period. Between December 2023 and December 2024, total industry employment increased by 2,300 jobs with construction payrolls increasing by 300 jobs.

3.15.1.3 Regulatory Setting

Federal

No federal statutes, regulations, plans, or policies govern the County's analysis of potential Project impacts on population and housing.

State

No state statutes, regulations, plans, or policies govern the County's analysis of potential Project impacts on population and housing.

Local

Fresno County General Plan

The Board of Supervisors adopted the updated Fresno County General Plan in February 2024; however, as of February 2025, the 2023−2031 Housing Element had not yet been adopted (Fresno County 2024).

Accordingly, this analysis relies on the goals, policies, and implementation measures related to population and housing set forth in the 2015–2023 Housing Element, which was adopted in April 2016 (Fresno County 2016). Relevant policies from the County's adopted Housing Element include the following:

> ***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 Council of Governments

The Fresno Council of Governments (Fresno COG) is a regional planning organization made up of representatives from Fresno County and its 15 incorporated cities. Its primary responsibilities include transportation and housing planning. Fresno COG is the state-designated regional transportation planning agency and the federally-designated metropolitan planning organization for Fresno County (Fresno COG 2024). Fresno COG prepares regional transportation and housing plans for the County and cities; this includes periodically assessing potential population and housing growth and associated needs.

The Fresno COG is also 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 is responsible for accommodating in the housing element of its general plan. The Fresno County RHNA Plan was last updated and approved in November 2022 and the planning period for the sixth cycle of the RHNA is from June 30, 2023, to December 31, 2031 (Fresno COG 2022). The plan relies on data from the census,[1] the State Department of Finance, the California Department of Housing and Community Development, and Fresno COG calculations to determine how best to allocate regional housing needs to Fresno County jurisdictions and to accommodate for expected population growth. According to the RHNA Plan, unincorporated Fresno County has a need for 2,350 housing units while the County overall has a need for 58,298 housing units to accommodate projected growth in the region in addition to existing housing need.

Fresno County Solar Facility Guidelines

To balance the need to accommodate new renewable energy technology with the need to protect existing important farmlands and minimize impacts on agricultural operations, Fresno County's land use process for evaluating solar facilities is hinged on flexible general guidelines and policies rather than specific, outlined standards to adhere to. The Solar Facility Guidelines were adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017. The guidelines identify considerations to be evaluated as part of the County's process for permitting solar facilities (Fresno County 2017). The following provisions are relevant to the analysis of potential impacts of the Rosemary Project on population and housing:

- ***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.

[1] The *census* is a population and housing count required by the U.S. Constitution. The U.S. Census Bureau conducts the count every 10 years primarily to determine representation in the House of Representatives and for distributing federal funds.

- ***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.

For details about Project consistency with other provisions of the Solar Facility Guidelines, see Section 3.12, *Land Use and Planning*, and **Appendix K2**, *Consistency with Fresno County's Solar Facility Guidelines*.

3.15.2 Significance Criteria

A project would result in significant impacts on 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the APMs or Standard Practices focus on the reduction of potential Project impacts on population and housing.

3.15.3.2 Methodology

This section analyzes potential impacts on population and housing using the environmental checklist criteria set forth in Appendix G of the CEQA Guidelines. The Project would be regulated by the applicable laws, regulations, plans, and policies related to population and housing that are described in Section 3.15.1.3, *Regulatory Setting*.

3.15.3.3 Direct and Indirect Effects of the Project

Criterion a) Whether the Project would 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).

Rosemary Project

The Rosemary Project would not induce substantial unplanned population growth in an area, either directly or indirectly. (*No Impact*)

A project could have a direct impact on population and housing resources if it would create substantial unplanned population growth in an area. As stated in Section 2.5.6.3, *Construction Schedule*, construction of Rosemary 1, 2, and 3 and the Rosemary Shared Facilities could occur concurrently or sequentially, with the total construction duration to extend no longer than 18 months. During this time, the peak daily workforce would be up to approximately 204 workers if the construction occurred concurrently. On average, fewer workers than this would be present on-site. Consistent with both Items 12 and 14 of the County's Solar Facility Guidelines, the Applicant has committed to making every reasonable effort to recruit and hire from the local workforce. For the purposes of this EIR, *local* refers to the 75-mile study area surrounding the Project, including the cities and counties listed in Tables 3.15-1, 3.15-2. Therefore, it is anticipated that construction personnel would already reside within the study area and no substantial population growth would occur as a result. A small number of construction personnel may choose to relocate closer to the Project site; however, any demand in short-term lodging could be accommodated by existing vacant housing units. San Joaquin, Mendota, Kerman, and Firebaugh are the closest incorporated cities to the Project site. San Joaquin has a housing vacancy rate of 3.5 percent, which equates to approximately 33 vacant housing units, while Mendota has a vacancy rate of 1.5 percent, equating to 43 vacant housing units. Kerman has a vacancy rate of 2.1 percent, which is approximately 104 vacant housing units, while Firebaugh has a vacancy rate of 4.7 percent, equating to 110 housing units. If construction workers wish to reside near the Rosemary Project site, housing would be available nearby to accommodate even the maximum amount of 204 workers, in addition to other available vacant housing in other incorporated cities within the study area, outlined in Table 3.15-2.

The Rosemary Project would employ approximately eight full-time employees for facility operation and approximately 16 part-time employees for vegetation management, panel washing, contract maintenance, and other similar tasks. The average number of O&M workers at the Rosemary Project site would be 10 people per day, with a maximum number of 16 people per day. Consistent with assumptions about the construction personnel labor pool, O&M employees are anticipated to be hired from the local labor force; therefore, no population growth is expected to occur because of the Rosemary Project's O&M personnel needs. The Project would not include the development of new homes or businesses, so it would not directly induce permanent population growth in the Project area once operational.

The anticipated operational term of each of the conditional use permits for the Rosemary Project is 40 years, upon which the infrastructure would be decommissioned and the site would be restored. Decommissioning and restoration of the Rosemary Project site would take approximately 12 months and the workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction. As a result, decommissioning activities that could result in impacts on population and housing would be similar in nature to those of construction activities discussed above. Because the Applicant has committed to making every reasonable effort to hire from within the local employment pool, the baseline population conditions would not change and the Rosemary Project would not induce substantial population growth, either directly or indirectly. Thus, there would be **no impact** under this criterion.

The Project could have an indirect impact on population growth if it were to spur population growth or cause an influx of people beyond what is anticipated or projected by local and regional plans. The Rosemary Project would result in an increase in available and reliable electrical capacity for the region; this could, therefore, cause an indirect increase in the population because of additional availability of electrical capacity. However, the Rosemary Project could replace existing sources of natural gas electricity

generation and support existing electricity demand. Further, any limited growth derived from an increase in electrical capacity would be negligible and accounted for in the general plan's predictions on population growth. Therefore, it would not constitute an "unplanned" growth in population. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have more direct effects on growth. Additionally, the energy produced by the Rosemary Project could be used by other regions outside of the study area and may not be exclusively used by Fresno County and its neighboring counties; therefore, it cannot be concluded that the Rosemary Project would have any indirect impact on population growth as a result of its added energy generation.

Mitigation: None required.

PG&E Project

The PG&E Project would not induce substantial unplanned population growth in an area, either directly or indirectly. (*No Impact*)

Construction activities for the PG&E Project would take approximately 18 months to complete, with approximately 15-20 construction workers on-site on a typical workday. A maximum of 30 workers could be present at various points along the alignment during the construction period. Because it is expected that labor needed to complete the proposed reconductoring and substation upgrades could be supplied by the existing workforce within the Fresno and Hanford–Corcoran metropolitan statistical areas, the PG&E Project would not induce any population growth or flux from the pre-Project population conditions. Construction would not generate permanent jobs in the area, nor would it require the creation of new roads or infrastructure that would directly or indirectly result in substantial unplanned population growth.

As stated in Section 2.6.6, *PG&E Operation and Maintenance*, O&M activities would include monitoring the system remotely, performing repairs as necessary, and conducting routine inspections. A small number of O&M staff would be required to perform this work as needed; however, O&M activities associated with the reconductored electrical line and substations would not change from PG&E's current practices and the ongoing presence of these workers would not constitute substantial population growth in the area. Therefore, there would be **no impact** related to the displacement of existing people or housing from construction or O&M of the PG&E Project.

Mitigation: None required.

Criterion b) Whether the Project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Rosemary Project

The Rosemary Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. *(No Impact)*

As discussed in Section 2.3, *Existing Land Uses*, the Rosemary Project would be constructed on fallowed farmland that includes no buildings, sewage facilities, or lighting sources. The Rosemary Project would be constructed on parcels currently designated as Farmland of Local Importance or zoned as AE-20

(Exclusive Agricultural, 20-acre minimum parcel size). The surrounding land is predominantly used for agricultural purposes or solar PV generation facilities, and the nearest residence is approximately 1.2 miles northwest of the Project site. There are not substantial numbers of people located within the Project site or its direct vicinity, and no housing is present on the Rosemary Project site that would be displaced by construction of the Rosemary Project. Neither O&M nor decommissioning of the Rosemary Project would displace any residential housing units, nor would either displace people or any other occupied structures. For these reasons, the Rosemary Project would have **no impact** associated with the displacement of people or the construction of replacement housing.

Mitigation: None required.

PG&E Project

The PG&E Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. *(No Impact)*

The proposed reconductoring would occur on the existing Helm–Crescent 70 kV transmission line over approximately 5 linear miles within an existing utility right-of-way and within the boundaries of existing substations. The PG&E Project site is not currently used for residential purposes, nor would reconductoring or O&M of the line or substation upgrades displace any existing people or housing. As discussed in Section 2.3, *Existing Land Uses*, the site is currently used for existing energy-related purposes, including PG&E's Helm Substation and Crescent Switching Station. Most of the surrounding lands are used for agricultural purposes or solar PV generation facilities, and there is one residence within 1,000 feet of the PG&E Project site, approximately 80 feet west of the transmission line. For these reasons, the PG&E Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and there would be **no impact** under this criterion.

Mitigation: None required.

3.15.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.15-3**, *Summary of Project Impacts on Population and Housing*, summarizes the population and housing impacts of the Project as a whole.

TABLE 3.15-3
SUMMARY OF PROJECT IMPACTS ON POPULATION AND HOUSING

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.15.4 Cumulative Effects

Because the Project would cause no impact related to population or housing, the Rosemary Project and PG&E Project would not cause or contribute to any cumulative effects on population and housing.

Mitigation: None required.

3.15.5 References

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3.16 Public Services

This section identifies and evaluates issues related to public services, including fire and police protection facilities, schools, parks, and libraries. The 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 did not receive scoping comments pertaining to public services. See **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, libraries, and medical providers that would serve the Project. The public service facilities serving these communities include fire departments, law enforcement, medical services, schools, and other public service facilities, as depicted in **Figure 3.16-1**, *Public Services*.

3.16.1.2 Environmental Setting

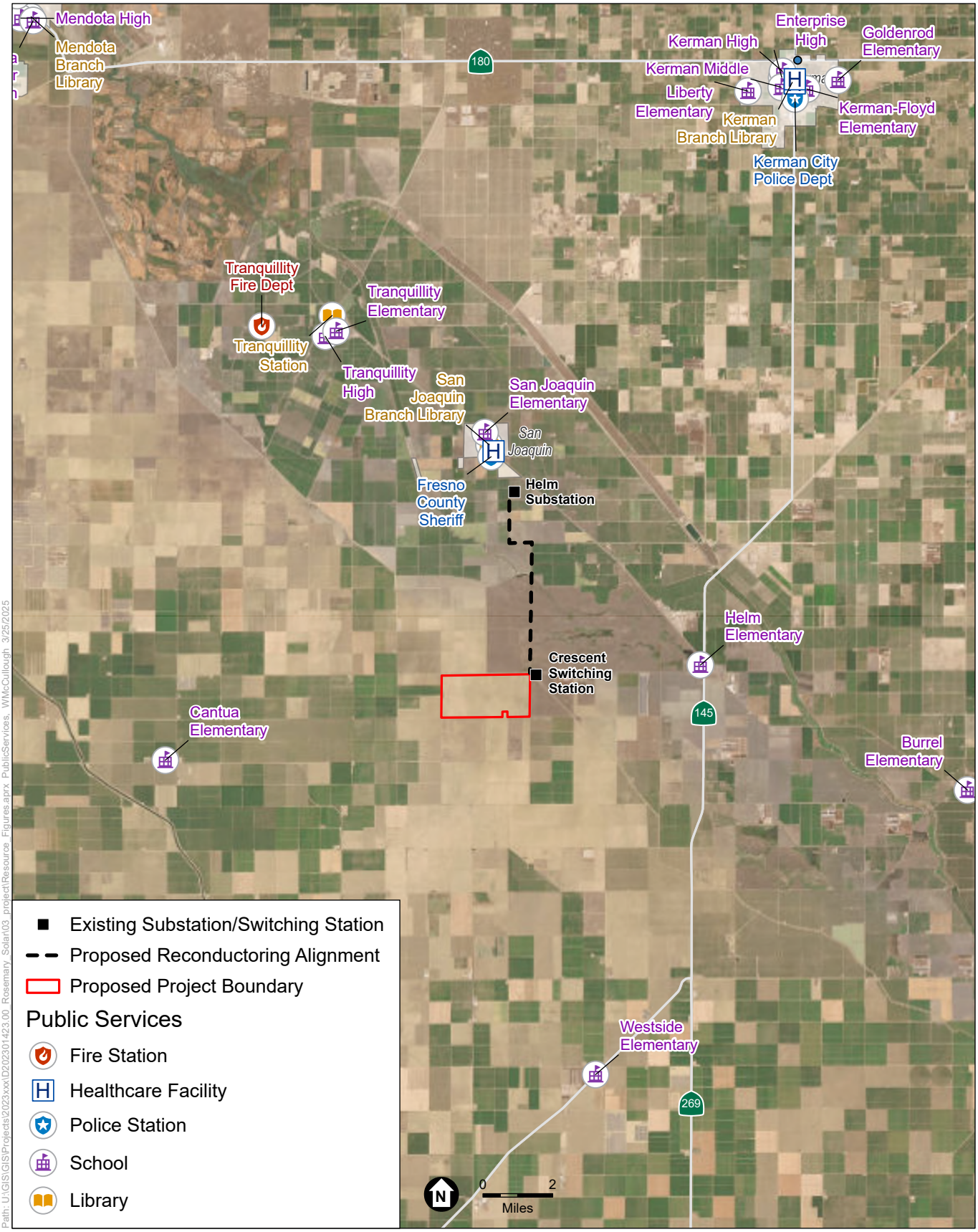
Fire Protection

The Fresno County Fire Protection District (FCFPD) provides fire protection services in the vicinity of the Project site. 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 2025a). The FCFPD provides a full range of emergency response services, including structural and wildland fire suppression, hazardous materials incident response, 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 2025b). The nearest fire station to the Project site is Station 95, located approximately 5 miles (16 minutes by car) northwest of the PG&E Project site at 25101 Morton Avenue in the community of Tranquillity.

Police Protection

California Highway Patrol

The California Highway Patrol (CHP) is a law enforcement agency created in 1929 to provide uniform traffic law enforcement for the State of California. The CHP has jurisdiction over all interstate and state routes in the Project area, including State Route 145 to the east of the Project. The Project area is served by the CHP Central Division. The nearest office is in Fresno at 5179 N Gates Avenue (CHP 2025).



Source: California Data Basin, 2025; ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 3.16-1
Public Services

ESA

Fresno County Sheriff's Department

The Fresno County Sheriff's Department (FCSD) provides patrol services for more than 6,000 square miles. In 1983, patrol services were decentralized and divided into four patrol areas. Each area is commanded by a lieutenant who supervises field services from a substation located in each of the areas. The Project site is located in Area 1, which covers more than 2,400 square miles of western Fresno County. The area borders five different counties and has within its jurisdictional boundaries the incorporated cities of San Joaquin, Coalinga, Huron, Kerman, Mendota, and Firebaugh. In addition to the incorporated cities, Area 1 covers the unincorporated communities of Tranquillity, Biola, Five Points, Helm, Three Rocks, Cantua Creek, and Dos Palos (FCSD 2025a, 2025b).

Schools

The Project site is located within Golden Plains Unified School District (GPUSD), which serves nearly 1,400 students. GPUSD operates four elementary schools, one high school, and one continuation school (GPUSD 2025). San Joaquin Elementary School is the nearest school to the Project site, approximately 1.25 miles northwest of the PG&E Project site.

Parks

There are a variety of recreational opportunities in Fresno County including regional parks, city parks, state and national parks, national forests, wilderness areas, scientific research areas, and other recreational opportunities. The Project site is not located within or adjacent to a recreational area, or within the immediate vicinity of any parks or recreational facilities, and there are no parks or existing recreational facilities located on the Project site. The nearest park is Peter Rusconi Park, located approximately 1.5 miles from the gen-tie line. Parks and other recreational resources are discussed further in Section 3.17*, Recreation.*

Libraries

There is one library near the Project site. San Joaquin Branch Library is located at 8781 South Main Street in San Joaquin, approximately 1.25 miles northwest from PG&E Crescent Switching Station.

Hospitals and Medical Facilities

There are four medical facilities near the Project site. All four are in Fresno, located approximately 24 miles from PG&E Crescent Switching Station and 27 miles from the Rosemary Project site. The four hospitals are Community Regional Medical Center, Family HealthCare Network, Community Medical Plaza, and Fresno Community Hospital.

3.16.1.3 Regulatory Setting

Federal

No federal statutes, regulations, plans, or policies pertaining to the provision of public services apply to the Project.

State

Education Code

Education Code Section 8241 pertains to public schools, including public schools in the Project area. It says:

> Until the Superintendent of Public Instruction promulgates regulations for center-based programs establishing staffing ratios, the following staffing ratios shall apply:
>
> (a) Infants, 0 to 2 years old—1:3 adult-child ratio, 1:18 teacher-child ratio.
>
> (b) Infants and toddlers, 0 to 2 years old—1:4 adult-child ratio, 1:16 teacher-child ratio.
>
> (c) Children 3 to 6 years old—1:8 adult-child ratio, 1:24 teacher-child ratio.
>
> (d) Children 6 to 10 years old—1:14 adult-child ratio, 1:28 teacher-child ratio.
>
> (e) Children 10 to 13 years old—1:18 adult-child ratio, 1:36 teacher-child ratio.
>
> (f) If groups of children of varying ages are commingled, the teacher and adult ratios shall be proportionate and appropriate to the ages and groups of children.

Public Utilities Code

Section 761.3(g) of the Public Utilities Code requires emergency response and emergency action plans for battery energy storage facilities. It says:

> (1) In order to ensure the safety of employees, emergency responders, and surrounding communities, each battery energy storage facility located in the state and subject to subdivision (a) shall have an emergency response and emergency action plan that covers the premises of the battery energy storage facility, consistent with Sections 142.3 and 6401 of the Labor Code and any related regulations, including the regulatory requirements applicable to emergency action plans pursuant to Section 3220 of Title 8 of the California Code of Regulations.
>
> (2) The emergency response and emergency action plan shall do all of the following:
>
> (A) Establish response procedures for an equipment malfunction or failure.
>
> (B) Include procedures that provide for the safety of surrounding residents, neighboring properties, emergency responders, and the environment. These procedures shall be established in consultation with local emergency management agencies.
>
> (C) Establish notification and communication procedures between the battery energy storage facility and local emergency management agencies.
>
> (3) The emergency response and emergency action plan may do all of the following:
>
> (A) Consider responses to potential offsite impacts, including, but not limited to, poor air quality, threats to municipal water supplies, water runoff, and threats to natural waterways.
>
> (B) Include procedures for the local emergency response agency to establish shelter-in-place orders and road closure notifications when appropriate.
>
> (4) In developing the emergency response and emergency action plan, the owner or operator of the battery energy storage facility shall coordinate with local emergency management agencies, unified program agencies, and local first response agencies.
>
> (5) The owner or operator of each battery energy storage facility shall submit the emergency response and emergency action plan to the county and, if applicable, the city where the facility is located.

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 2024).

The following goal and policies in Section G, *Law Enforcement,* of the Public Facilities and Services Element are 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.1:*** The County shall ensure the provision of effective law enforcement services to unincorporated areas in the county.
>
> ***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 goal and policies 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 and services acceptable to the Public Works and Planning Director in consultation with the appropriate fire district 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 California 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 goal and policies 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 policy in Section H, *Parks and Recreation*, of the Open Space and Conservation Element is 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

A project would result in significant impacts on 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. None of the APMs are focused on the potential to reduce Rosemary Project impacts on public services.

PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. The Standard Practices described in Section 2.6.7.2, *Wildfire Risk Management*, and Section 2.6.7.6, *Temporary Traffic Controls*, reduce the potential impacts of the PG&E Project on public services.

3.16.3.2 Methodology

This evaluation of potential impacts on public services was based on consideration of 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

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.

Rosemary Project

The Rosemary Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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. (*No Impact*)

Fire Protection

Rosemary Project construction could result in emergency situations that require emergency response services, including fire protection, such as fires, severe injuries, or medical emergencies. However, with the implementation of proper safety precautions, such situations would be infrequent and limited and would not generate demand for fire protection services. The Rosemary Project would be consistent with General Plan policies as set forth in Section 3.16.1.3, *Regulatory Setting*. Construction vehicles would each have a spark arrestor to minimize fire risk, site access points would comply with requirements set forth by CAL FIRE and/or the Fresno County Fire Protection District to help ensure adequate emergency access, and compliance with other additional fire protection policies would limit the frequency of emergency situations that would require fire protection services. Further, combustible vegetation or agricultural products on and around active construction areas associated with the Rosemary Project would be actively managed during construction to minimize fire risk and an emergency response plan, which would comply with existing state regulations, would be prepared to train local emergency response personnel during development and operation of the facility. See Section 3.10, *Hazards and Hazardous Materials*, and Section 3.18, *Transportation*, for additional discussion of potential Rosemary Solar Project effects on emergency service providers.

It is anticipated that construction would take approximately 18 months and require a maximum of 204 workers at one time if the Rosemary facilities are constructed concurrently. It is anticipated that recruitment efforts would occur locally, which, as defined in Section 2.5.6.4, *Construction Workforce*, would include the Fresno and Hanford–Corcoran metropolitan statistical areas. This area includes Fresno (approximately 32 miles from the Rosemary Project site), Madera, Hanford, and other areas within 50 miles of the site. Construction activities would be limited in duration and based on Fresno County's Solar Facility Guidelines (see **Appendix K2**), the workforce is expected to commute to the site from local areas. Therefore, no permanent increase in population associated with this work is expected. Construction would not increase short-term demand for fire protection services such that new or physically altered facilities would be required.

Increases in long-term demand for fire protection services can be associated with substantial increases in population. Operation and maintenance of the Rosemary Project is expected to require an average of 10 people per day to 16 people per day to be on-site to perform vegetation management, panel washing, contract maintenance, and other similar tasks. Non-routine (emergency) maintenance could require additional workers. For these reasons, operation and maintenance of the Rosemary Project would not require construction of new or physically altered fire protection facilities to maintain acceptable service ratios, response times, or other performance standards. Additionally, as discussed in Chapter 2, *Project Description*, multiple fire safety measures would be taken to avoid potential fire risks such as compliance with the California Fire code, fire safety systems, and the installation of internal roads which would serve as firebreaks. Compliance with requirements and the implementation of additional fire-safety measures would avoid or reduce potential adverse impacts to fire-related risk.

Decommissioning of the Rosemary Project would have similar impacts on fire protection services. The workforce for decommissioning would be the same or smaller than for construction, and would draw from the same metropolitan service area that would supply workers during construction. Decommissioning would last for approximately 12 months. The local and relatively small workforce and short decommissioning period would not increase the demand for fire protection services such that new or physically altered facilities would be required.

Law Enforcement

The Rosemary Project may require law enforcement response services in the event of vandalism, theft, or a trespasser at the Project site. The presence of workers on-site (up to 204 workers at a time during construction and decommissioning and an average of 10-16 people per day during operation and maintenance) would tend to deter illegal activities. Security lighting and fencing would further reduce instances of crime and the associated need for law enforcement services. Although the Rosemary Project may result in increased demand for law enforcement services, such an increase would be negligible and would not require construction of new or physical alteration of existing law enforcement facilities to maintain acceptable service ratios, response times, or other performance standards.

Schools

Rosemary Project construction could result in the employment of a maximum of 204 workers at the peak of construction and decommissioning activities and of an average 10-to-16 people during operation and maintenance. It is anticipated that these workers would commute to the Rosemary Project site from areas within the Fresno and Hanford–Corcoran metropolitan statistical areas. Therefore, Rosemary Project

workers would not have to relocate to the Project area, including with school-aged children into the Golden Plains Unified School District. See Section 3.15, *Population and Housing*, for additional information about the Rosemary Project's expected impact on the local population. Accordingly, the Rosemary Project would not result in a substantial increase in demand for school facilities such that the construction of a new school or modification of an existing school, the construction of which could cause significant environmental effects.

Parks

The Rosemary Project would not require the construction of new parks or modification of existing parks, nor would construction, operation, or decommissioning alter or impair the use of parks. This is because the workforce for construction, operation, maintenance, and decommissioning would be from with the nearest metropolitan service areas. Accordingly, the demands these workers could place on parks in the Project area are reflected in the exiting (baseline) condition. Even if some in-migration did occur to meet the Project's needs, any related incremental increase in demands on area parks would not require the creation of additional parks or modification of existing parks to maintain service ratios. See Section 3.17, *Recreation*, for additional evaluation of the Rosemary Project's potential impacts on park facilities.

Other Public Facilities

The Rosemary Project would not result in substantial adverse impacts to other public facilities (e.g., public libraries, hospitals, or other civic uses) due to a need to construct new or modify existing facilities because, as discussed previously, the Rosemary Solar Project would not result in a notable increase in local population. The workforce is expected to be sourced from local areas and already contributing to existing facilities demands under existing conditions; or housing, which would typically be associated with increased demand for such public facilities. Even if some in-migration did occur to meet the Project's workforce needs, any related incremental increase in demands on other public facilities (such as medical facilities and libraries) would not require the creation of additional facilities or modification of existing facilities to maintain service ratios because any associated incremental increase in demand would not be substantial and would not require the construction of new public facilities or modification of existing public facilities, the construction of which could cause significant environmental effects.

PG&E Project

The PG&E Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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. (*No Impact*)

Fire Protection

The PG&E Project construction could result in situations that require emergency services to respond to fires, severe injuries, or other medical events. However, with the implementation of proper safety precautions, such situations are expected to be infrequent, limited in nature, and not of a scale that would require the construction of new or modification of existing facilities. PG&E would follow its Standard Practices, including the fire risk management procedures described in Section 2.6.7.2 of Chapter 2, *Project Description*, which include safe work practices, work permit programs, training, and fire response. Other fire prevention measures would be enforced, such as smoking being permitted only in

designated smoking areas and open fires (such as barbecues) being prohibited and compliance with other additional fire protection policies would limit the frequency of emergency situations that would require fire protection services. It is anticipated that reconductoring and substation upgrades would take approximately 18 months and require up to a maximum of 30 workers at one time. It also is anticipated that recruitment efforts would occur locally, from within the Fresno and Hanford–Corcoran metropolitan statistical areas, and so would not generate new demand on existing facilities. Because the duration of reconductoring activities would be limited and because the workforce is expected to commute from local areas, no increase in population or related demand on fire protection services is expected to require new or physically altered facilities, the construction of which could cause significant environmental impacts.

Once reconductoring and substation upgrades are complete, the PG&E Project would cause no net change in employment levels or demands on fire protection services relative to existing (baseline) conditions.

Law Enforcement

Any potential incremental change to existing levels of demand on law enforcement and related facilities in connection with the PG&E Project infrastructure would be limited to the reconductoring phase. Law enforcement services response may be required during this timeframe in the event of vandalism, theft, or trespassing. However, employees' presence in the area during working hours and temporary fencing would reduce the potential for crime and the associated need for law enforcement services. Substation upgrades also would occur within existing fenced facilities. Although the PG&E Project may result in increased demand for law enforcement services, such an increase is expected to be negligible and would not require construction of new or physically altered law enforcement facilities to maintain acceptable service ratios, response times, or other performance standards.

Once reconductoring and substation upgrades are complete, the PG&E Project would cause no net change in employment levels or demands on law enforcement services relative to existing (baseline) conditions.

Schools

Reconductoring and substation upgrades are expected to employ a maximum of 30 workers from local areas during an 18-month period. Because it is anticipated that workers would commute to the Project site rather than move closer to it, the reconductoring workforce would not bring new school-aged children into the school district. However, even if some workers did relocate for the PG&E Project, the increase would be negligible, and existing school facilities would be able to accommodate the students. Accordingly, the PG&E Project would not result in a substantial increase in demand for school facilities that would require the construction of a new school or modification of an existing school, the construction of which could cause significant environmental effects.

Once reconductoring and substation upgrades are complete, the PG&E Project would cause no net change in employment levels or demands on school facilities relative to existing (baseline) conditions.

Parks

As noted above, reconductoring and substation upgrades are expected to employ a maximum of 30 workers from local areas during an 18-month period. Because it is anticipated that workers would commute to the Project site rather than move closer to it, the reconductoring workforce would not generate new demand for park facilities. However, even if some workers did relocate for the PG&E Project, the increase would

be negligible, and existing parks would be able to accommodate them. Accordingly, the PG&E Project would not result in a substantial increase in demand for park facilities that would require the construction of new parks or the modification of existing parks, the construction of which could cause significant environmental effects.

Once reconductoring and substation upgrades are complete, the PG&E Project would cause no net change in employment levels or demands on park facilities relative to existing (baseline) conditions.

Other Public Facilities

The PG&E Project would not result in substantial adverse impacts to other public facilities (e.g., public libraries, hospitals, or other medical facilities) because it would not generate substantial new demands on such facilities. Even if some workers did relocate into the area to work on the PG&E Project, any such in-migration would be negligible, and existing public facilities would be able to accommodate it. Accordingly, the PG&E Project would not result in a substantial increase in demand for other public facilities that would require the construction of new or modified facilities, the construction of which could cause significant environmental effects.

Once reconductoring and substation upgrades are complete, the PG&E Project would cause no net change in demand on public facilities relative to existing (baseline) conditions.

3.16.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.16-1**, *Summary of Project Impacts on Public Services*, summarizes the impacts of the Project as a whole on public services.

TABLE 3.16-1
SUMMARY OF PROJECT IMPACTS ON PUBLIC SERVICES

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

3.16.4 Cumulative Effects

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.

As analyzed in Section 3.16.3.3, neither the Rosemary Project nor the PG&E Project would have any impact on public services. Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any cumulative effect on public services.

3.16.5 References

CHP (California Highway Patrol). 2025. About Us. Available: https://www.chp.ca.gov/about-us/. Accessed February 25, 2025.

FCFPD (Fresno County Fire Protection District). 2025a. *About Us*. Available: https://www.fresnocountyfire.org/about-us. Accessed February 25, 2025.

FCFPD. 2025b. District Operations. Available: https://www.fresnocountyfire.org/district-operations. Accessed February 25, 2025.

FCSD (Fresno County Sheriff's Department). 2025a. Patrol Areas. Available: https://www.fresnosheriff.org/units/enforcement/patrol-areas.html. Accessed February 25, 2025.

FCSD. 2025b. Area 1. Available: https://www.fresnosheriff.org/units/enforcement/patrol-areas/area-1.html. Accessed February 25, 2025.

Fresno County. 2024. *Fresno County General Plan*. Final. February 2024. Available: https://www.fresnocountyca.gov/files/sharedassets/county/v/1/public-works-and-planning/development-services/planning-and-land-use/general-plan/fcgpr_general-plan_county_final_2024_02.pdf. Accessed February 25, 2025.

GPUSD (Golden Plains United School District). 2025. District Profile: Golden Plains Unified. Available: https://www.cde.ca.gov/sdprofile/details.aspx?cds=10752340000000. Accessed February 25, 2025.

3.17 Recreation

This section identifies and evaluates considerations related to recreation, including the levels of use for existing parks or other recreational facilities and whether the Project proposes or would require the construction of new or expansion of existing recreational facilities where such improvements could have an adverse physical effect on the environment. The section identifies 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 input during the scoping process regarding recreation (**Appendix A**, *Scoping Report*).

3.17.1 Environmental Setting

3.17.1.1 Study Area

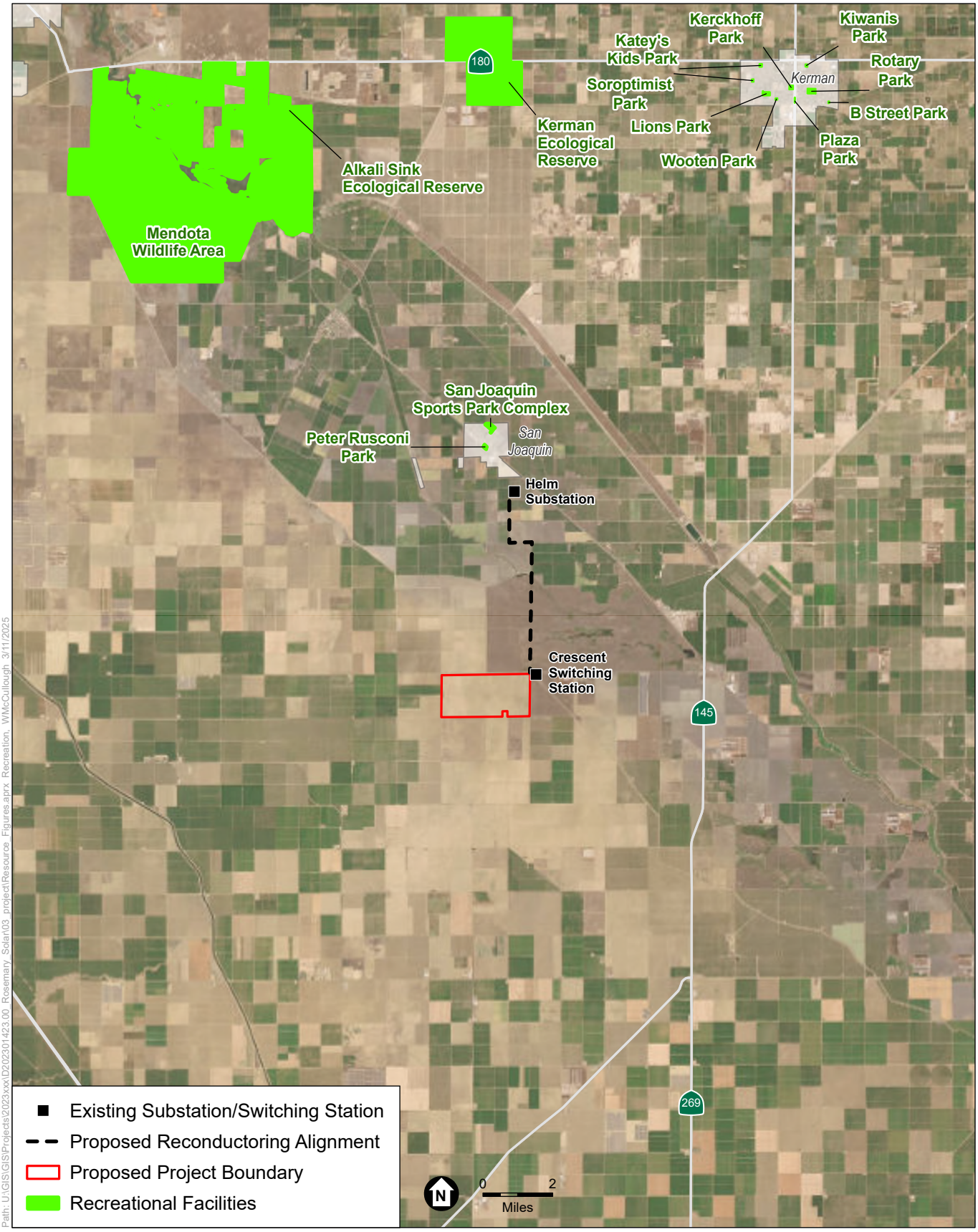
The study area for the analysis of potential impacts on recreation resources includes the Project site (i.e., the Rosemary Project site plus the PG&E Project site) and the parks, open spaces, and other lands used for recreational purposes within 15 miles of the Project site.

3.17.1.2 Environmental Setting

Recreational resources within Fresno County include regional parks, city parks, state and national parks, national forests, wilderness areas, and other facilities. Most are located in the eastern portion of the county (Fresno County 2024). The nearest recreational facility to the Project site is Peter Rusconi Park, located 1.5 miles from the Helm Substation's northernmost extent of the PG&E Project. **Table 3.17-1**, *Recreation Facilities Nearest to the Project Site*, lists the parks and recreational facilities within an approximately 15-mile radius of the Project site and **Figure 3.17-1**, *Recreational Facilities*, visually displays the distances from the recreational areas to the nearest Project component. For all recreational facilities summarized in Table 3.17-1 and shown in Figure 3.17-1, the Helm Substation is the nearest Project component and the distances in the table reflect the distance from each recreational facility to the Helm Substation.

The nearest recreational facilities, including Peter Rusconi Park and San Joaquin Sports Complex, are in the City of San Joaquin. Situated 1.5 miles from the Project site in the heart of San Joaquin, Peter Rusconi Park includes a skate park, basketball court, and a picnic area with barbecue pits (City of San Joaquin 2025). The San Joaquin Park Sports Complex is the second closest recreational facility to the Project site, situated 2 miles from the Helm Substation, and offers an outdoor sports field equipped with one softball field, two soccer fields, a running track, a playground, and a concession stand.

Three ecological areas are situated within the study area. The Mendota Wildlife Area provides a space for wildlife viewing, small game and waterfowl hunting, fishing, and dog training (CDFW 2025a). Adjacent to Mendota Wildlife Area is Alkali Sink Ecological Reserve, which is a 930-acre reserve with migratory birds, wintering waterfowls, as well as many other wildlife species, making it a prime location for wildlife viewing and bird watching (CDFW 2025b). Kerman Ecological Reserve is approximately 1,800 acres and is composed primarily of annual grassland, with wildlife such as shorebirds, raptors, reptiles, coyote, and badger allowing for wildlife viewing and seasonal hunting (CDFW 2025c). These ecological areas range from 10.4 miles to 12.8 miles from the Helm Substation.



Source: ESA, 2024

Rosemary Solar and Energy Storage System Complex

Figure 3.17-1
Recreational Facilities

ESA

TABLE 3.17-1
RECREATION FACILITIES NEAREST TO THE PROJECT SITE

Recreational Facility	Managing Agency	Approximate Distance from Nearest Project Component
Peter Rusconi Park	City of San Joaquin	1.5 miles
San Joaquin Sports Complex	City of San Joaquin	2 miles
Mendota Wildlife Area	California Department of Fish and Wildlife	10.4 miles
Kerman Ecological Reserve	California Department of Fish and Wildlife	11.2 miles
Alkali Sink Ecological Reserve	California Department of Fish and Wildlife	12.8 miles
Lions Park	City of Kerman	13.6 miles
Wooten Park	City of Kerman	13.7 miles
Soroptimist Park	City of Kerman	13.8 miles
Plaza Park	City of Kerman	13.9 miles
Katey's Kids Park	City of Kerman	14.2 miles
Kerckhoff Park	City of Kerman	14.2 miles
Rotary Park	City of Kerman	14.5 miles
B Street Park	City of Kerman	14.5 miles
Kiwanis Park	City of Kerman	14.9 miles

SOURCES: City of Kerman 2023; City of San Joaquin 2025; distances calculated by ESA 2024.

The majority of recreational facilities in the study area are located in and around the City of Kerman, which hosts a variety of public parks with sports fields, playgrounds, picnic areas, benches, and outdoor spaces, as listed in Table 3.17-1 (City of Kerman 2023). Recreational areas within and around the City of Kerman range from 13.6 miles to 14.9 miles away from the nearest Project component.

3.17.1.3 Regulatory Setting

Federal

No federal statutes, regulations, plans, or policies govern recreation-related considerations applicable to the Project.

State

No state statutes, regulations, plans, or policies govern recreation-related considerations applicable to the Project.

Regional and Local

Fresno County General Plan

The Fresno County General Plan Open Space and Conservation Element discusses policies to enhance recreational opportunities in the County and encourages further development of public and private recreational opportunities (Fresno County 2000). Section H, *Parks and Recreation*, contains the following goals and policies that promote the provision of recreational resources:

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: Park Standards. 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: Centrally-located Parks. 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: Western Recreation Facilities. The County shall encourage the development of recreation facilities in western Fresno County.

Fresno County Solar Facility Guidelines

Item 12 in the Fresno County Solar Facility Guidelines relates to recreation (Fresno County 2017). The guidelines state: "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."

3.17.2 Significance Criteria

The Project would result in a significant impact on recreation 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. None of the APMs and none of the Standard Practices focus on recreation.

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 would be significant.

3.17.3.3 Direct and Indirect Effects of the Project

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.

Rosemary Project

The Rosemary Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. (*No Impact*)

Increases in the use of recreational facilities are typically associated with increases in population. As discussed in Section 3.15, *Population and Housing*, the Project would not result in population growth or otherwise generate an influx of new residents that could increase demand for recreation resources in the study area. Consistent with Fresno County's Solar Facility Guidelines, workers to construct and decommission the Rosemary Project are expected to be hired from within the County and the Fresno and Hanford-Corcoran metropolitan statistical areas. Sourcing from the local employment pool would, therefore, prevent a population influx from occurring and substantial deterioration of surrounding parks or facilities would not occur or be accelerated.

There are no parks or existing recreational facilities located on-site that would be displaced and thereby cause an increase in the use of other recreational facilities in the study area. The nearest recreational facility is the Peter Rusconi Park in the City of San Joaquin, which is 1.5 miles away from the nearest Project component. According to Section 2.5.6.4, *Construction Workforce*, peak workforce demand would occur during facility construction if Rosemary 1, 2, 3 and the Rosemary Shared Facilities were constructed concurrently. Should this occur, the peak daily workforce would be up to approximately 204 workers. On average, fewer workers than this would be present on-site. The workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction. In accordance with Fresno County's Guidelines for Solar Facility development, construction and decommissioning personnel are expected to be hired from within Fresno County and the Fresno and Hanford-Corcoran metropolitan statistical areas. Thus, although construction personnel may use parks during their lunch breaks or non-working hours, any demand for recreation resources by construction or decommissioning personnel would occur as part of the baseline condition and would not change as a result of the Project. In addition, it is anticipated that most workers would stay on-site for lunch or would not regularly travel to nearby cities to use recreational facilities. Any marginal temporary increase in the use of facilities in the study area would not cause or accelerate substantial physical deterioration of said facilities. The Rosemary Project would employ approximately eight full-time employees for facility operation: four for Rosemary 1 and two each for Rosemary 2 and 3. Additionally, approximately 16 part-time employees would be needed for vegetation management, panel washing, contract maintenance, and other similar tasks. The average number of O&M workers at the Rosemary Project site would be 10 people per day, with a peak number of 16 people per day. Like the construction personnel employment pool, O&M employees are expected to be drawn from the local labor force; however, even if all O&M employees relocated to the area to work on the Rosemary Project, only a negligible increase in recreational facility usage would occur. This level of incremental additional demand, if it occurs, would

not cause or accelerate substantial deterioration of existing recreational facilities. For these reasons, there would be **no impact** on these resources.

Mitigation: None required.

PG&E Project

The PG&E Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. (*No Impact*)

There are no parks or existing recreational facilities located in the PG&E Project alignment that would be displaced and thereby cause demand to disperse to other recreation facilities in the study area. The nearest recreational facility, Peter Rusconi Park, is 1.5 miles away from the nearest Project component. As discussed in Section 3.15, *Population and Housing*, the Project would not result in population growth or otherwise generate new residents that could increase demand for recreation resources in the study area. According to Section 2.5.6.4**,** on a typical workday during the anticipated, approximately 18-month period needed to complete reconductoring, approximately 15–20 construction workers would be on-site. When work activities are conducted concurrently, up to 30 workers could be present at various locations along the alignment at any time. Because it is anticipated that all workers would travel to the work site from within the Fresno and Hanford–Corcoran metropolitan statistical areas, the PG&E Project would cause no increase in demand for surrounding recreational areas. O&M activities associated with the reconductored electrical line and upgraded substations would not change from PG&E's current practices, which include monitoring the system remotely, responding and repairing the line if outages are detected, and conducting routine inspections of the line and poles and substations at regular intervals. Thus, the demand for recreational resources following the completion of reconductoring would not change as compared to existing (pre-Project) conditions. Therefore, the workforce anticipated to construct, operate, and maintain the PG&E Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated and there would be **no impact**.

Mitigation: None required.

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.

Rosemary Project

The Rosemary Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. (*No Impact*)

The Rosemary Project would not include new recreational facilities as components of the Project, nor would it require the construction of new facilities or the expansion of existing recreational facilities. As discussed in Section 3.15, *Population and Housing*, the Project would not induce a substantial unplanned population increase and would therefore not result in the need for additional recreational facilities to be

constructed or for existing facilities to be expanded. For these reasons, **no impact** would occur as a result of the construction, operation, or decommissioning of the Rosemary Project.

PG&E Project

The PG&E Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. (*No Impact*)

Recreational facilities are not included as components of the PG&E Project, nor would the proposed reconductoring work require the construction of new recreational facilities or the expansion of existing ones. As discussed in Section 3.15, *Population and Housing*, the Project would not directly or indirectly induce a substantial unplanned population increase such that it would require the construction or expansion of additional recreational facilities. Therefore, **no impact** would occur as a result of construction, operation, or decommissioning of the PG&E Project.

3.17.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.17-2**, *Summary of Project Impacts on Recreation*, summarizes the impacts of the Project as a whole on recreation.

TABLE 3.17-2
SUMMARY OF PROJECT IMPACTS ON RECREATION

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

3.17.4 Cumulative Effects

Because the Project would cause no direct or indirect impact on existing recreational resources, it could not cause or contribute to any cumulative effect on such resources. Thus, the Rosemary Project and the PG&E Project would cause **no cumulative impact** on recreation.

3.17.5 References

CDFW (California Department of Fish and Wildlife). 2025a. Mendota Wildlife Area. Available: https://wildlife.ca.gov/Lands/Places-to-Visit/Mendota-WA. Accessed March 7, 2025.

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City of Kerman. 2023.*Kerman Community/Teen Center*. Available: https://www.cityofkerman.net/DocumentCenter/View/754/Current-Park-and-Facility-Fees-PDF. Accessed March 10, 2025.

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Fresno County. 2017. Solar Facilities Guidelines. Available: https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/photovoltaic-facilities/photovoltaic-facilities-p-1621. Accessed January 30, 2025.

Fresno County. 2024. *Fresno County General Plan.* Final. February 2024. Available: https://www.fresnocountyca.gov/files/sharedassets/county/v/1/public-works-and-planning/development-services/planning-and-land-use/general-plan/fcgpr_general-plan_county_final_2024_02.pdf. Accessed February 3, 2025.

3.18 Transportation

This section identifies and evaluates issues related to transportation, including the circulation system, vehicle miles traveled (VMT), road-related hazards, and emergency access. The section describes the physical and regulatory setting, criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment.

This analysis is based in part on a Transportation Impact Study prepared by Fehr & Peers for the Rosemary Project (**Appendix M**). The preparers of this Draft EIR 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 the EIR. Additionally, the County received initial input from Caltrans District 6 outside the formal scoping period (Caltrans 2025). Caltrans' initial environmental review indicated that minimal and short-term traffic could be expected during construction and once the Project is fully operational. Caltrans indicated that the Project would create a negligible net increase in trip generation and also would not have a significant safety impact to the nearby state highway facilities.

3.18.1 Setting

3.18.1.1 Study Area

The Project site (i.e., the Rosemary Project site plus the PG&E Project site) is located in unincorporated Fresno County, west of State Route (SR) 145 (also called Lassen Avenue). The Rosemary Project site is bounded by West Kamm Road to the north, West Conejo Avenue to the south, South Yuba Avenue to the east, and South El Dorado Avenue to the west. South Colusa Avenue bisects the Rosemary Project site north-south. Of all the roads listed, West Kamm Avenue is the only paved and public road; the rest of the roads are unpaved and private. Access to the Rosemary Project site would be provided by the existing roadway network described in Section 3.18.1.2, *Environmental Setting*. Primary access from the public roadway network would be from West Kamm Avenue.

The PG&E Project site is located adjacent to the Rosemary Project site to the east and north. The existing PG&E Crescent Switching Station occupies approximately 3 acres within an approximately 7-acre site east of the intersection of West Kamm Avenue and South Yuba Avenue. The existing PG&E Helm Substation is located south of West Manning Avenue and east of South Placer Avenue. The approximately 5-linear-mile-long corridor where the PG&E Project would occur begins at the PG&E Helm Substation, continue south along South Placer Avenue for 1 mile, east along West Floral Avenue for 0.5 mile, south along South Yuba Avenue for 3 miles, and east along West Kamm Avenue for 0.1 mile before connecting to the PG&E Crescent Switching Station.

The transportation study area includes all nearby roadways where Project activities would add vehicle trips. The transportation study area also includes pedestrian, bicycle, and transit facilities located on public roadways closest to the Project site (i.e., SR 145).

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 145 is a two-lane undivided highway that traverses through the center of San Joaquin Valley, facilitating regional connectivity within Fresno County. Dedicated turn lanes are generally provided from SR 145 to nearby intersections. Vehicle trips generated by the Project are expected to arrive from and depart to areas north and south of the Project site via West Kamm Avenue and SR 145.

Local Roads

West Kamm Avenue is a two-lane undivided local road that provides a connection from SR 145 in the community of Helm, approximately 2.75 miles east of the existing PG&E Crescent Switching Station. West Kamm Avenue is the only paved and public road that provides access to the unpaved and private roads within the Rosemary Project site and along the PG&E Project corridor.

Private Roads

South Yuba Avenue, West Conejo Avenue, and **South El Dorado Avenue** are private unpaved roads that border the Rosemary Project site. **South Colusa Avenue** is also a private unpaved road that bisects the Rosemary Project site north to south. Access to these private unpaved roads is provided via West Kamm Avenue. Primary access to the Rosemary Project site would be via a main gate on the northeast part of the site on South Yuba Avenue and/or off West Kamm Avenue via a new driveway, approximately 300 feet west of South El Dorado Avenue. A secondary access gate would be installed on South Colusa Avenue and/or South El Dorado Avenue.

South Placer Avenue and **West Floral Avenue** are private unpaved roads north of the Rosemary Project site. The PG&E Project corridor would run along the following private unpaved roads: South Placer Avenue, West Floral Avenue, and South Yuba Avenue. A portion of the PG&E Project corridor also would run along West Kamm Avenue, a private unpaved road.

Public Transportation

There are no public transit facilities immediately adjacent to the Project site nor on SR 145 within the vicinity of the Project site. Public transportation in the areas closest to the Project site in Fresno County is provided by the Fresno County Rural Transit Agency via the Coalinga Intercity Transit (FCRTA 2019). Coalinga Intercity Transit provides scheduled round-trip service from Coalinga to the Fresno-Clovis metropolitan area with service available Monday through Saturday from 8:00 a.m. to 5:45 p.m. (FCRTA 2024). The closest bus stop is located approximately 12.2 miles southeast of the Rosemary Project site at the intersection of SR 145 and Mount Whitney Avenue in the city of Five Points. The Fresno County Regional Active Transportation Plan does not identify any planned public transportation facilities within the vicinity of the Project site (Fresno COG 2024).

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 145 or West Kamm Ave. The Fresno County Regional Bicycle and Recreational Trails Master Plan does not identify any planned pedestrian or bicycle facilities within the Project vicinity including along West Kamm Avenue and SR 145. Pedestrian and bicycle facilities on paved shoulders are commonly found on rural roads (e.g., SR 145) without curbs and

sidewalks. Shoulder bikeways provide a paved location for bicyclists to travel outside of the travel lane (Fresno County 2013).

3.18.1.3 Regulatory Setting

State

CEQA Lead Agencies and Vehicle Miles Traveled

Public Resources Code Section 21099 directs the CEQA lead agencies to analyze traffic impacts using VMT as the standard. Public Resources Code Section 21099 resulted in the focus of transportation analysis shifting from level of service (LOS) to VMT and the reduction of greenhouse gas emissions through the creation of multimodal transportation networks and the promotion of a mix of land uses to reduce VMT. Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

CEQA Guidelines Section 15064.3 implements Public Resources Code Section 21099. It defines VMT as "the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel." Section 15064.3(b) requires lead agencies to evaluate transportation impacts based on a VMT approach and no longer allows the use of vehicle delay and LOS to determine the significance of a transportation impact for purposes of CEQA. Regarding how to proceed, Section 15064.3(b)(4) states: "A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled."

Caltrans

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 the 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 Fresno County General Plan provides the framework for County decisions concerning the countywide transportation system, which includes various transportation modes and related facilities (Fresno County 2024). 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 (Fresno COG) (2022), and with federal and state 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: Vehicle Miles Traveled (VMT) Standards and CEQA Evaluation.*** The County shall require evaluation of County General Plan land use designation changes, zone changes, and discretionary development for their individual (i.e., project-specific) and cumulative transportation impacts based on VMT under the California Environmental Quality Act (CEQA) pursuant to the methodology and thresholds of significance criteria established by the County.
>
> ***Policy TR-A.3: Level of Service.*** 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.4: Roadway Access.*** 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.6: Rights-of-way Dedications.*** 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.9: Development Impact Fee.*** 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.10: Roadway Improvements.*** 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.
>
> ***Policy TR-A.14: Multi-modal Transportation System.*** The County where appropriate, shall coordinate the multi-modal use of the streets and highways to ensure their maximum efficiency and connectivity and shall consider the need for transit, bikeway, and recreational trail facilities when establishing the Ultimate Right-of-way Plan and Precise Plans of street and highways.
>
> ***Policy TR-A.15: Bikeways and Trails.*** The County shall develop and maintain a program to construct bikeways and recreation trails in accordance with the adopted Regional Bicycle and Recreational Trail Master Plan. The County shall seek funding for construction and maintenance of bicycle facilities and trails.
>
> ***Policy TR-A.25: Vehicle Miles Traveled (VMT) Threshold.*** Projects that would generate or attract more than 110 daily vehicle trips shall be evaluated for a transportation VMT impact on an individual basis. The threshold of significance shall be 87 percent below the countywide average rate of VMT. Any individual project resulting in VMT that exceeds 87 percent below the countywide average shall be required to implement project-specific mitigation measures aimed at reducing VMT generated by the project.

Fresno County SB 743 Implementation Regional Guidelines

The Fresno COG released the Fresno County SB 743 Implementation Regional Guidelines in January 2020. The SB 743 Implementation Regional Guidelines provide a framework for assessing transportation impacts under CEQA in alignment with SB 743. This legislation shifts the focus from LOS metrics to VMT as the primary measure of transportation impact (Fresno COG 2020). Key components of the guidelines include a definition of the Region for VMT analysis, standardized screening methods, VMT significance thresholds, and mitigation strategies. Fresno COG also provides tools to support these guidelines including VMT analysis guide, VMT screening maps, and a VMT calculation tool. Such tools aim to assist local agencies and project applicants in implementing SB 743 requirements.

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 federal, state, and local 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 2024).

The master 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. As amended, the master plan coordinates the regional bikeway system with existing local bikeway plans that tie into a comprehensive bikeway system; coordinates Fresno County's 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.

Fresno County Regional Active Transportation Plan

The Fresno COG developed the Fresno County Regional Active Transportation Plan to create 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 current version of the Fresno County Regional Active Transportation Plan was approved by the Fresno COG on May 30, 2024. It reflects more recently identified, modified, or completed projects and includes updated information on disadvantaged communities and safety data, current land use and plans in each city and the county, as well as updates to reflect best active transportation planning practices (Fresno COG 2024).

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 Act (Fresno COG 2017).

The CMP is a systematic process for managing congestion that provides information on the following:

(1) Transportation system performance.

(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 endeavors 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. At a minimum, all state highways and principal arterials must be designated as part of the Congestion Management System of Highways and Roadways.

As noted above, CEQA Guidelines Section 15064.3(b) prohibits the use of vehicle delay and LOS to determine the significance of a transportation impact for purposes of CEQA. Because the CMP is focused solely on vehicle delay and LOS transportation metrics, it is not the focus of the analysis of transportation impacts in this evaluation.

3.18.2 Significance Criteria

A 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 Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. None of the APMs focuses on transportation.

PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.6, *Temporary Traffic Controls*, could reduce potential impacts of the PG&E Project on transportation.

3.18.3.2 Methodology

Trip Generation

To assess any potential impacts of the Rosemary Project on the surrounding roadway network, the first step is to determine Project trip generation. Trip generation was analyzed separately for construction of only the Rosemary Project and operation of the site. Project construction trip generation was based on peak levels of construction activity using the following assumptions:

- Daily traffic operations with existing and project conditions are expected to continue at LOS C or better with the addition of project traffic. The project is not expected to adversely affect roadway segment LOS in the vicinity of the Project site during the construction phase (see Appendix M for further details).
- The facility construction phase is expected to generate 200 one-way worker trips, 40 one-way vendor truck trips, and 20 one-way off-site haul truck trips per day, for total of 260 one-way vehicle trips. The analysis assumes that workers travel in 2-axle vehicles, vendors travel in 3-axle vehicles, and off-site haulers travel in 5-axle vehicles.
- Operation and maintenance activities would include eight full-time employees. Personnel would be on-site between 7:00 a.m. and 4:00 p.m.
- The project would also employ 16 part-time employees for periodic maintenance tasks including vegetation management, panel washing, contract maintenance, and other similar tasks.
- A daily maximum of 124 one-way trips would be generated if all operation and maintenance tasks were to occur on the same day.

Potential transportation impacts from construction of the PG&E Project were assessed separately, based on PG&E's anticipated construction schedule, workforce estimates, and equipment needs. Reconductoring activities are expected to occur over an 18-month period, with a peak daily workforce of approximately 15-20 construction workers and up to 30 workers distributed at various locations along the alignment. Given the dispersed nature of the work and limited number of daily vehicle trips, construction-related traffic would be temporary and negligible, and was determined not to result in significant increases in VMT.

Vehicle Miles Traveled

SB 743 went into effect throughout California on July 1, 2020. This legislation changed the performance measure for CEQA transportation studies from LOS to VMT. Consistent with Fresno County General Plan Policy TR-A.2, the County evaluates discretionary development proposals under CEQA for their project-specific and cumulative transportation impacts based on VMT and is directed to do so pursuant to methodology and thresholds of significance criteria established by the County.

Regarding a VMT threshold of significance, General Plan Policy TR-A.25 states the following (Fresno County 2024):

> *Projects that would generate or attract more than 110 daily vehicle trips shall be evaluated for a transportation VMT impact on an individual basis. The threshold of significance shall be 87 percent below the countywide average rate of VMT. Any individual project resulting in VMT that exceeds 87 percent below the countywide*

average shall be required to implement project-specific mitigation measures aimed at reducing VMT generated by the project.

However, a precise, countywide average rate of VMT is not readily available. Absent that metric, this analysis relies instead on the screening criteria listed in the *Fresno County SB 743 Implementation Regional Guidelines*, which state that a project would have a less-than-significant impact if the project generates fewer than 500 average daily trips (Fresno COG 2020).

3.18.3.3 Direct and Indirect Effects of the Project

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.

Rosemary Project

The Rosemary Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (*No Impact*)

Construction of the Rosemary Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, nor would it otherwise decrease the performance or safety of such facilities. Fresno County's General Plan includes policies regarding LOS, access and safety standards of roadway facilities, bike facilities, and public transit, such as Policies TR-A.3, TR-A.4 and TR-A.10 described above.

Per SB 743, LOS is no longer a traffic measure magnitude. However, the Rosemary Project would be consistent with General Plan policy TR-A.3, *Level of Service.* Policy TR-A.3 sets a LOS standard for county roads stating that a project cannot generate anything below LOS C on County roadways. As mentioned above, due to the rural nature of the site and the distribution of anticipated construction traffic, the Rosemary Project would not conflict with TR-A.3 because daily traffic operations with existing and Project conditions are expected to continue at LOS C or better with the addition of project traffic.

The Rosemary Project would be consistent with General Plan policies, the Regional Bicycle and Trails Master Plan, and the Fresno County Regional Active Transportation Plan because there is no public transportation service or dedicated pedestrian or bicycle facilities on roadways that would be used to access the Project site. Additionally, neither West Kamm Avenue or SR 145 is listed in the Fresno County General Plan's Transportation and Circulation Element as an "existing or planned bikeway." Similarly, the Project site would not introduce a barrier to nonmotorized travel because of the proposed lack of roadway improvements. Therefore, the Rosemary Project would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities because there are no facilities in the affected area.

Rosemary Project construction would occur over approximately 18 months with a peak daily workforce of approximately 204 workers and the workforce would be traveling from surrounding communities. Construction traffic would result in short-term increases in traffic volumes on surrounding roadways. As described in Appendix M Section 4.1, *Construction Period Trip Generation*, the facility construction phase is anticipated to generate the greatest number of daily trips, totaling 260 one-way trips per day. However, it is likely that trips occurring during AM and PM peak hours would generally be limited to

worker trips as workers arrive and leave the site. Heavy duty trucks would generally arrive and leave the site outside of peak hours. Worker trips would not impact local roadway conditions, as the roadways in the vicinity of the site are generally free flowing, with few if any delays, which would not change as the result of the Rosemary Project. Rosemary Project construction traffic would be short-term and temporary and would not result in long-term or permanent changes to local roadway conditions.

Once construction of the Rosemary Project is complete, traffic levels associated with operations and maintenance would be generated by the eight full-time employees for facility operation and 16 part-time employees for vegetation management, panel washing, contract maintenance, and other similar tasks. The average number of operations and maintenance staff at the site would be 10 people per day, with a peak of 16 people per day. Delivery trucks, pickup trucks, or personal vehicles would make an average of 10 daily two-way trips to the Rosemary Project site. Operation and maintenance, as described in Appendix M Section 4.2, *Operations and Maintenance Period Trip Generation,* anticipates a daily maximum of 124 one-way trips would be generated if all operation and maintenance tasks were to occur on the same day. It is a conservative, albeit unlikely, assumption that all operation and maintenance tasks would occur on the same day. The more likely outcome is that there would be fewer average daily trips. However, even if it did occur, the Rosemary Project would still be consistent with applicable policies. The screening criteria listed in the *Fresno County SB 743 Implementation Regional Guidelines* states that a project would have a less-than-significant impact if the project generates fewer than 500 average daily trips. The Rosemary Project qualifies for the screening criteria given that the project would generate fewer than 500 daily trips for both the construction and operation and maintenance periods.

Decommissioning impacts would be relatively similar to those identified for Rosemary Project construction. Decommissioning and restoration of the Rosemary Project site would take approximately 12 months. The workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction. For these reasons, the Rosemary Project would not conflict with adopted policies, plans, or programs nor would it affect the surrounding transportation system.

Mitigation: None required.

PG&E Project

The PG&E Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (*No Impact*)

The PG&E Project would not conflict with a program, plan, ordinance, or policy addressing transit, bicycle, or pedestrian facilities. The policies and plans addressing transit, bicycle, or pedestrian facilities are described in Section 3.18.1.3, *Regulatory Settings*. The PG&E Project would be consistent with General Plan policies, the Regional Bicycle and Trails Master Plan, and the Fresno County Regional Active Transportation Plan because there is no public transportation service or dedicated pedestrian or bicycle facilities on roadways that would be used for reconductoring activities and associated improvements. West Kamm Avenue is the only paved public road where the PG&E Project corridor site is located. West Kamm Avenue is not listed in the Fresno County General Plan's Transportation and Circulation Element as an "existing or planned bikeway." Therefore, the PG&E Project would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities because there are no facilities in the affected area.

Reconductoring and substation upgrade construction activities would be implemented over 18 months with a peak daily workforce of approximately 15-20 workers. Up to 30 workers could be present at various locations along the alignment at any time. Resulting construction traffic would be negligible and would not result in significant increases in traffic volumes on surrounding roadways.

Operation and maintenance activities associated with the reconductored electrical line and substation upgrades would not change from PG&E's current practice. The existing character of the existing PG&E transmission line and substations would not change. Accordingly, the PG&E Project would not conflict with adopted policies, plans, or programs nor would it affect the surrounding transportation system.

Mitigation: None required.

Criterion b) Whether the Project would conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).

Rosemary Project

Impact 3.18-1: The Rosemary Project would generate vehicle miles traveled. (*Less-than-Significant Impact*)

Consistent with CEQA Guidelines Section 15064.3(b)(3), construction traffic associated with the Rosemary Project is analyzed qualitatively for the purposes of VMT considerations. Construction of the Rosemary Project would result in a maximum of 260 one-way daily vehicle trips. However, in a no-build condition, it would be reasonable to assume that the construction workers who would have built the Rosemary Project would be employed elsewhere on different project sites. The Applicant would conduct local recruitment efforts therefore, based on lack of evidence to the contrary, this analysis assumes that the no-build condition would include construction trips and VMT generation similar to what would occur if the Project were built. Further, the maximum of 260 one-way daily construction trips would be temporary. For instance, with a construction period of 18 months, the equivalent period of VMT generation would be less than 5 percent of a permanent residential, office, or retail use that would be developed at the same time as the Project and would be in place through the Fresno County regional planning horizon year of 2046.

Further, VMT primarily is a metric for assessing project-related GHG emissions impacts. The analysis related to GHG emissions associated with Rosemary Project-related construction traffic is analyzed elsewhere in this EIR; see Section 3.9, Greenhouse Gas Emissions. Overall, as the Project would provide renewable energy to the grid and would offset GHG emissions that would have otherwise resulted from producing energy from a non-renewable source, the Project would have a net beneficial impact in offsetting GHG emissions. Accordingly, because the increase in VMT related to construction is short-term, temporary and localized, project construction is not anticipated to result in long-term, permanent changes to the surrounding vehicle transportation system. Construction of the Rosemary Project would result in less-than-significant direct and indirect VMT impacts.

Once construction of the Rosemary Project is complete, traffic levels associated with operation and maintenance would be generated by the eight full-time employees for facility operation and 16 part-time employees for vegetation management, panel washing, contract maintenance, and other similar tasks. The average number of operation and maintenance staff at the site would be 10 people per day, with a peak of

16 people per day. Delivery trucks, pickup trucks, or personal vehicles would make an average of 10 daily two-way trips to the Rosemary Project site. According to The California Governor's Office of Land Use and Climate Innovation's Technical Advisory (2018), any completed project generating fewer than 110 trips per day can be presumed to have a less-than-significant impact on VMT; therefore, no mitigation measures related to VMT are necessary.

Decommissioning and restoration of the Rosemary Project site would take approximately 12 months. The workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction. Resulting impacts would be comparable, temporary, and less than significant.

In summary, the Rosemary Project would generate vehicle miles traveled but not in a manner that would result in a significant adverse impact relating to a conflict or inconsistency with CEQA Guidelines Section 15064.3(b). The impact would be **less than significant**.

Mitigation: None required.

PG&E Project

Impact 3.18-2: The PG&E Project would generate vehicle miles traveled. (*Less-than-Significant Impact*)

Reconductoring along with other activities required to construct the PG&E Project would occur over 18 months with a peak daily workforce of approximately 15-20 construction workers. Up to 30 workers could be present at various locations along the alignment at any time. Related construction traffic would be temporary, negligible, and would not result in significant increases in VMT. Accordingly, the PG&E Project would have a **less-than-significant** VMT impact during the 18-month construction phase.

Once reconductoring is complete, the PG&E Project would have **no impact** relating to CEQA Guidelines Section 15064.3(b) because operation and maintenance activities and related passenger vehicle trips would not change relative to existing (baseline) conditions.

Mitigation: None required.

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).

Rosemary Project

Impact 3.18-3: The Rosemary Project would not substantially increase hazards due to a geometric design feature or incompatible uses. (*Less-than-Significant Impact*)

The Rosemary Project would cause a less-than-significant impact related to geometric design features, such as sharp curves or dangerous intersections, which could substantially increase hazards. The Rosemary Project would not include design features that would create a hazard on the roadways surrounding the Project site. It also would not exacerbate risks or hazards of existing roadway design features. Primary access to the Project site would be provided from main access gates located on South Yuba Avenue, a private unpaved road, and/or potentially West Kamm Avenue, a paved public road, via a new driveway.

All access points would be required to conform with Fresno County standards per General Plan Policies TR-A.3, TR-A.5, and TR-A.10, ensuring that corner sight distance requirements would be followed. These design and construction requirements would help ensure that Project components would not affect traffic flow in a way that could substantially increase transportation-related hazards. Additionally, perimeter site access points would comply with requirements set forth by the California Department of Transportation and Fresno County design requirements to help ensure compliance with fire safety regulations.

Further, within the Rosemary Project site, secondary access gates would provide access to internal access roads between and among the various Rosemary Project components. These secondary access gates would be located on South Colusa Avenue and/or South El Dorado Avenue. The secondary gates as well as the internal access roads would allow for smoother movement within the Rosemary Project site. Internal access roads connecting Rosemary Project site entrances to the O&M area, the ESS area, and substation in one of two potential locations, as well as the perimeter road, would be 20–25 feet wide to fit larger vehicles. Primary access roads and perimeter roads would be compacted native earth; however, if required, the main access roads would be graveled to prevent visibility issues due to dust.

Surrounding land uses generally include agricultural uses to the north and south of the Rosemary Project site and other energy uses and agricultural uses to the east and west. The Rosemary Project would not introduce incompatible uses that would create a hazard on the roadways surrounding the Project site. Trucks and other construction equipment are common on area roadways and those needed for the Rosemary Project are expected to be able to travel at (and allow other vehicles on the road to travel at) safe speeds during periods of project construction and decommissioning. Construction-related oversize vehicle loads also would 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 by Caltrans and Fresno County, and would be detailed in respective oversize load permits.

During the operation and maintenance phase, work on the Rosemary Project site would generate very little traffic, all of which would be compatible with other uses in the area. Accordingly, the Rosemary Project would cause a **less-than-significant impact** due to the introduction incompatible uses, which would substantially increase hazards.

Mitigation: None required.

PG&E Project

Impact 3.18-4: The PG&E Project would not substantially increase hazards due to a geometric design feature or incompatible uses. (*Less-than-Significant Impact*)

As mentioned above, the PG&E Project corridor runs along the following private unpaved roads: South Placer Avenue, West Floral Avenue, and South Yuba Avenue. A portion of the PG&E Project corridor also would run along West Kamm Avenue, a private paved road.

Implementation of PG&E-proposed Standard Practices, specifically temporary traffic controls (described in Section 2.6.7.6) and parking requirements (see Section 2.6.7.7) would help ensure that any traffic safety hazard related to the construction of the PG&E Project would be less than significant. During the reconductoring and line work phase, a road closure or rolling stop would be arranged before the start of

conductor installation at locations where lines cross over roads. Any road closures that must occur on private and county roads typically would not exceed a few minutes in duration and would be coordinated with the County or the landowner. Alternatively, guard structures may be installed at road crossings in lieu of road closures. These guard structures are typically structures installed on each side of the road with nets extending between each side and over the road, or aerial lift trucks with H-frame guards mounted on the booms. PG&E would obtain any necessary transportation and/or encroachment permits, including for the transport of any oversized loads and certain materials, and would comply with permit requirements designed to prevent excessive congestion or traffic hazards during lane closures. PG&E would develop lane closure/width reduction or traffic diversion plans if/as required by the encroachment permits. Construction activities that would occur in or along, or cross local roadways would follow best management practices and/or local jurisdictional encroachment permit requirements to minimize impacts to traffic and transportation in the work area. Access routes and temporary work areas would be limited to the minimum necessary to achieve project goals. Routes and boundaries of work areas, including access roads, would be clearly mapped prior to starting work. Vehicular speeds would be kept to 15 mph on unpaved roads with no posted speed limit. Additionally, construction of the substation upgrades would occur within facility boundaries and use existing access points and, thus, would not create hazards due to geometric design features or incompatible uses.

Following reconductoring, operation and maintenance activities would be the same as PG&E's current practices, consistent with CPUC general orders and other state standards. Because there would be no net change relative to existing (baseline) conditions during the operation and maintenance phase, the PG&E Project would have **no impact** once reconductoring and line-related construction activities are complete.

Mitigation: None required.

Criterion d) Whether the Project would result in inadequate emergency access.

A potential significant impact relating to criterion d) could result if a proposed project were to create physical obstructions, such as by blocking or narrowing roadways, or by introducing hazards like unstable slopes; increase traffic congestion by generating excessive traffic during peak hours, which could delay or prevent emergency vehicles from reaching their destination; or interfere with communication systems by disrupting radio signals or other communication infrastructure used by emergency responders.

Rosemary Project

Impact 3.18-5: The Rosemary Project would not result in inadequate emergency access. (*Less-than-Significant Impact*)

The Rosemary Project would not cause a significant adverse impact relating to any of the conditions noted above. The Rosemary Project site is located adjacent to West Kamm Avenue, the only paved public road adjacent to the Rosemary Project site. SR 145 would provide regional access to the Rosemary Project site while West Kamm Avenue would provide local access. There are no planned road closures as part of the Rosemary Project's construction, operation and maintenance, or decommissioning. The Rosemary Project site would be accessible, including to emergency vehicles, from the main access gate on South Yuba Avenue and the main access gate on West Kamm Avenue. If a main access gate is not

constructed on West Kamm Avenue, three entrances would be available to the site. The perimeter roads would facilitate on-site circulation for emergency vehicles as well as accommodate Rosemary Project operation and maintenance activities. The perimeter access would be constructed in conformance with the California Department of Transportation and Fresno County design requirements for fire safety. If required by local first responders and emergency services authorities, lockboxes with keys would be placed next to each gate to allow access for emergency vehicles. The primary access road would have a finished width of approximately 20–25 feet. All designated access roads also would provide sufficient space for emergency response vehicles.

A potentially significant impact would occur if additional traffic due to construction or decommissioning would affect the ability of emergency vehicles to circulate to and from the site. However, emergency vehicles would be able to adequately bypass Project traffic through the multiple ingress/egress available to the site. Therefore, emergency access would be maintained through all Project phases, and the impact would be **less than significant**.

Mitigation: None required.

PG&E Project

Impact 3.18-6: The PG&E Project would not result in inadequate emergency access. (*Less-than-Significant Impact*)

The PG&E Project would not cause a significant adverse impact relating to criterion d). Traffic specific to the PG&E Project would be a small component of the overall Project-related traffic. Although reconductoring-related construction activities for the PG&E Project may cause minor delays to emergency access for the same reasons described under criterion b), a road closure or rolling stop would be arranged before the start of conductor installation at any locations where lines cross over roads. Road closures may impede or delay emergency access; however, any road closures that must occur on private and county roads typically would not exceed a few minutes in duration and emergency access could be maintained to and through the general area. As mentioned under criterion b), PG&E would implement temporary traffic controls to prevent excessive congestion or traffic hazards during lane closures. PG&E also would develop lane closure/width reduction or traffic diversion plans if/as required by the encroachment permits to minimize impacts on traffic and transportation. The implementation of these standards would minimize the possibility of inadequate emergency access. Road closures or stops would not be required for substation upgrades associated with the Project. A less-than-significant impact would result.

Operation and maintenance activities associated with the reconductored electrical line would not change from PG&E's current practices. Accordingly, the PG&E Project would have **no impact** relating to criterion d) once reconductoring-related construction work is complete.

Mitigation: None required.

3.18.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.18-1**, *Summary of Project Impacts on Transportation*, summarizes the impacts of the Project as a whole on transportation.

TABLE 3.18-1
SUMMARY OF PROJECT IMPACTS ON TRANSPORTATION

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.18.4 Cumulative Effects

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.

As analyzed in Section 3.18.3.3.3, *Direct and Indirect Effects of the Project*, the Project (including the Rosemary Project and the PG&E Project) would cause no impact regarding criterion a). Accordingly, the Rosemary Project and the PG&E Project would not cause or contribute to any significant cumulative effect due to a conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (*No Impact*)

Criterion b) Whether the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

Impact 3.18-7: The Project would not cause or contribute to a significant cumulative effect relating to the generation of vehicle miles traveled. (*Less-than-Significant Impact*)

A significant cumulative VMT impact would exist if, for example, the Project, in combination with other projects and activities in the study area, would cause a net increase in total regional VMT compared to no-project conditions, or would be inconsistent with regional transportation plans. As analyzed in the context of criterion a) in Section 3.18.3.3, the Project would have no impact due to an inconsistency with any applicable transportation plan. Further, the Project's less than significant incremental impact identified in the context of criterion b), combined with the incremental impacts of other projects in the cumulative scenario (as described in Section 3.1.3, *Cumulative Effects Approach*) that are within the study area, would not cause a significant cumulative effect due to a conflict or inconsistency with CEQA Guidelines Section 15064.3(b). Accordingly, the Rosemary Project's and the PG&E Project's cumulative effect in this regard would be **less than significant**.

The purpose of a VMT analysis conducted consistent with CEQA Guidelines Section 15064.3(b) is to assess the environmental impacts of land use decisions by evaluating the amount of vehicle travel generated by a project, which is then used to determine potential impacts on air quality and greenhouse gas emissions. See Section 3.4, *Air Quality*, and Section 3.9, *Greenhouse Gas Emissions*, which conclude that the Project (including the Rosemary Project and the PG&E Project) would not cause a cumulatively considerable contribution to a significant adverse cumulative effect on air quality or GHG emissions. As noted, the Rosemary Project's and the PG&E Project's cumulative effect relating to VMT would be **less than significant**.

Mitigation: None required.

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).

Impact 3.18-3c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses. (*Less-than-Significant Impact*)

As described in Section 3.18.3.3, *Direct and Indirect Effects of the Project*, the Rosemary Project's incremental impacts regarding an increase in hazards due to geometric design features or incompatible uses would be less than significant. A cumulatively considerable impact would result from the Rosemary Project if the Project's components, in combination with surrounding projects, would create a hazardous feature or incompatible use in the surrounding community. Because the nearest operational project is 1 mile east of the Project site and the nearest cumulative project with potentially overlapping construction schedules is 5.5 miles north of the Project site, there would be no project design features that would combine with surrounding projects to create a hazardous feature or incompatible use in the surrounding community. Any construction-related oversize vehicle loads would have to comply with permit-related and other requirements of the California Vehicle Code and California Streets and Highway Code. Further, there would be no improvements to existing transportation systems that would be implemented as part of the Project that could cause hazardous conditions in the Project vicinity. As a result, the cumulative effect would be **less than significant**.

Mitigation: None required.

Impact 3.18-4c: Implementation of the PG&E Project would not cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses. (*Less-than-Significant Impact*)

The PG&E Project's incremental impacts regarding an increase in hazards due to geometric design features or incompatible uses would be less than significant and limited to the period when active reconductoring and substation upgrade work would occur. The PG&E Project could have a significant cumulative effect if it, in combination with past, other present, and reasonably foreseeable future projects, it would substantially increase existing (baseline) hazards due to geometric design features or incompatible uses in the surrounding community. Because the nearest operational project is 1 mile east of the Project site and the nearest cumulative project with potentially overlapping construction schedules is

5.5 miles north of the Project site, there would be no project design features that would combine with surrounding projects to create a hazardous feature or incompatible use in the surrounding community. Accordingly, the PG&E Project would have a **less-than-significant** cumulative effect.

Mitigation: None required.

Criterion d) Whether the Project would result in inadequate emergency access.

Impact 3.18-5c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to inadequate emergency access. (*Less-than-Significant Impact*)

The Rosemary Project could cause or contribute to a significant cumulative effect due to inadequate emergency access if its incremental contribution, when combined with the incremental impacts of other projects in the cumulative scenario (as described in Section 3.1.3, *Cumulative Effects Approach*), would create physical obstructions, introduce hazards, increase excessive traffic congestion, or disrupt the communication infrastructure used by emergency responders. However, these conditions would not result. Existing emergency access in the study area is sufficient (meaning, no significant adverse condition is present) and the Rosemary Project's incremental, less than significant contribution to cumulative conditions would not cause existing conditions to deteriorate such that a physical obstruction would be caused, hazards would be introduced, traffic congestion would be increased, or communications would be disrupted in a way that results in inadequate emergency access. For example, none of the projects listed in Table 3.1-1, *Cumulative Projects List,* would interfere with adequate emergency access to the Project site, because there would not be substantial traffic near the site as a result of these past, present, and reasonably foreseeable future projects at the cumulative level. Emergency vehicles would be able to adequately access the Project site via West Kamm Avenue without significant congestion or interference from surrounding vehicles, and Project site access would be maintained. The Rosemary Project's cumulative effect relating to criterion d) would be **less than significant**.

Mitigation: None required.

Impact 3.18-6c: The PG&E Project, in combination with other projects, would not result in a significant cumulative effect due to inadequate emergency access. (*Less-than-Significant Impact*)

As provided above, no significant adverse cumulative condition exists related to the adequacy of emergency access. The PG&E Project's incremental, less-than-significant impact, in combination with the incremental impacts of other projects would not cause a significant adverse cumulative effect to occur because there would not be substantial traffic near the PG&E Project corridor work areas and substation upgrade areas, and because emergency vehicles would continue to be able to adequately access the area in and around the PG&E Project corridor (via West Kamm Avenue, the only paved, public road adjacent to the site) and substation upgrade area, without significant congestion or interference from surrounding vehicles. The cumulative effect would be **less than significant**.

Mitigation: None required.

3.18.5 References

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The California Governor's Office of Land Use and Climate Innovation (LCI). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018. Available: https://lci.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed July 24, 2025.

3.19 Utilities and Service Systems

This section identifies and evaluates issues related to utilities and service systems, such as water, wastewater treatment, storm water drainage, electric power, natural gas, telecommunications, and solid waste facilities. The 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.

This analysis is based in part on the water supply assessment (WSA) prepared for the Rosemary Project (**Appendix J**). The preparers of this Draft EIR independently reviewed the WSA 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 the EIR.

During the scoping period, the County received comments from the Westlands Water District (WWD) generally relating to utilities and service systems, municipal and industrial water service regulations, and specifically the WWD water distribution system laterals present near the Project site (**Appendix A**, *Scoping Report*).

3.19.1 Setting

3.19.1.1 Study Area

The Project would be located in a sparsely populated rural region of Fresno County south of San Joaquin. For the purposes of this analysis, the study area includes the service areas or spheres of influence for the various utilities that serve the Project site (encompassing both the Rosemary Project and the PG&E Project) and, more generally, Fresno County.

3.19.1.2 Environmental Setting

Utility providers that serve the region where the Project is proposed include water wholesalers and retailers, wastewater districts, natural gas, and electric companies. WWD provides wholesale water mainly for agricultural, municipal and industrial purposes and Pacific Gas and Electric Company (PG&E) provides electrical and natural gas service. The Project site is in a rural agricultural location and not within the spheres of influence of any public sewer systems or potable water supply networks.

Water Supply

Water supply sources under the jurisdiction of the WWD consist principally of groundwater extracted from the San Joaquin Valley- Westside Groundwater Basin. Secondary source supplies include surface water from federal (U.S. Bureau of Reclamation) and state (Central Valley Project and State Water Project) sources, local surface water, and imported transfers into the WWD service area (Appendix J). WWD is the largest agricultural water district in the United States, providing water to users in western Fresno and Kings counties, including the agricultural areas surrounding the Project site. Surface water supplies are imported from the Central Valley Project (CVP) using the Delta-Mendota Canal and the San Luis Canal. WWD has an entitlement to a supply of 1,195,383 acre-feet of CVP water annually. In some years, WWD may acquire additional water pursuant to its entitlements or from other water sources; in other years, depending on drought conditions and water supply availability in the Bay Delta, the total

CVP supply may not be delivered (WWD 2023). WWD does not deliver treated water for human consumption and is not considered a public water system. The Project site is not connected to a public water system. Water provided by WWD for renewable energy development in its service area is considered Municipal and Industrial (M&I) water.

The Rosemary Project site is located within the San Joaquin Valley Groundwater Basin, at the eastern edge of the Westside Subbasin. The Westside Subbasin is within Fresno and Kings counties, covering approximately 972 square miles. The subbasin is bordered by the Diablo Range to the west and other groundwater subbasins along its north, east, and southern boundaries; the Pleasant Valley Subbasin is located to the southwest, Tulare Lake Subbasin to the south, Kings Subbasin to the east, and the Delta-Mendota Subbasin to the east and north. A majority of the land overlying the San Joaquin Valley Groundwater Basin coincides with the WWD service area (Appendix J).

WWD is the primary Groundwater Sustainability Agency[1] (GSA) for the Westside Subbasin and, in this role, prepared a Groundwater Sustainability Plan[2] (GSP) consistent with the requirements of the Sustainable Groundwater Management Act (see Section 3.19.1.3, *Regulatory Setting*, for more information). The Westside subbasin, managed by WWD, is identified as a high-priority subbasin under SGMA and one in a condition of critical overdraft (DWR 2025a). The Westside Subbasin has a projected sustainable yield of 294,000 acre-feet per year based on projected groundwater pumping and a decline in projected groundwater storage (WWD 2022).

The PG&E facilities, including the Crescent Switching Station, the Helm Substation and the entire reconductoring route, would be within the adjacent Kings subbasin of the San Joaquin Valley Groundwater Basin. As with the Westside subbasin, the Kings subbasin is defined by DWR as a high-priority groundwater basin and one in a condition of critical overdraft (DWR 2025b).

Wastewater Service

Wastewater service is not currently provided to the Project site. The closest wastewater treatment facility to the Project site is in the southeast portion of the City of San Joaquin, approximately 5 miles north of the Rosemary Project site. In Fresno County, rural areas (such as the Project site) are outside the municipal sphere of influence and generally use septic systems or on-site wastewater treatment systems to manage wastewater treatment and disposal.

Electric Power and Natural Gas

PG&E is the primary provider of electricity and natural gas services in Fresno County. PG&E is an investor-owned utility company that provides electricity and natural gas supplies throughout a 70,000-square-mile service area that includes western Fresno County and the Project site.

Telecommunications

Telecommunications in the study area include cellular telephone service provided by AT&T and multiple cable television and internet service providers.

[1] Groundwater Sustainability Agencies are responsible for establishing Ground Water Sustainability Plans for subbasins which the agency overlays in order to support the Sustainable Groundwater Management Act.

[2] Groundwater sustainability plans are required to be developed by GSAs under the Sustainable Groundwater Management Act for high and medium priority basins.

Solid Waste Management

The Fresno County Resources Division is responsible for solid waste coordination and solid waste disposal activities and has a number of facilities that could accept solid waste from the Project site.

The closest landfill to the Project site is American Avenue Landfill, owned and operated by Fresno County and located in the city of Kerman, approximately 9.5 miles northeast of the Project site. The American Avenue Landfill is permitted to receive 2,200 tons (approximately 1,571 cubic yards) of waste per day. Acceptable waste types include mixed municipal, tires, industrial, construction/demolition, asbestos, and agricultural waste. The landfill has a remaining capacity of approximately 29,358,535 cubic yards and is expected to reach its permitted capacity and cease operation in 2031 (CalRecycle 2025a). The City of Clovis has a solid waste landfill approximately 39 miles northeast of the Project site. The landfill has a permitted capacity of 7,800,000 cubic yards with a remaining capacity of 7,740,000 cubic yards. The landfill accepts mixed municipal and industrial waste and has a permitted maximum throughput of 2,000 tons per day (CalRecycle 2025b).

The Project site is located within the Mid Valley Disposal Company's service area, which provides industrial waste disposal. The Mid Valley Disposal Company has multiple transfer stations in the vicinity of the Project site, including in Avenal and Coalinga (CalRecycle 2025b).

3.19.1.3 Regulatory Setting

Federal

No federal regulations related to utilities are applicable to the Project.

State

California Integrated Waste Management Act

The Integrated Waste Management Act was enacted in 1989 and codified in Public Resources Code Section 40050 et seq. The law required all California cities, and unincorporated portions of counties, and approved regional solid waste management agencies to divert a minimum of 50 percent of solid waste from landfills by the year 2000 and to maintain the 50 percent diversion rate (as a minimum) going forward. Diversion includes waste prevention, reuse, and recycling. The law resulted in the creation of the California Integrated Waste Management Board, which now is known as the California Department of Resources Recycling and Recovery (CalRecycle). The Act also establishes 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. Under the Act, jurisdictions must submit solid waste planning documentation to CalRecycle.

Sustainable Groundwater Management Act

In 2014, the Sustainable Groundwater Management Act (SGMA) was signed into law by Governor Brown. SGMA requires governments and water agencies of high and medium priority groundwater basins to manage over drafting to bring the basins to balanced levels of pumping and recharge. SGMA empowers local agencies to form Groundwater Sustainability Agencies to manage basins and requires development and implementation of Groundwater Sustainability Plans for high and medium priority groundwater basins in California. The Rosemary Project would be located in the Westside Subbasin of the San Joaquin Valley Groundwater Basin, which is a high-priority subbasin. The PG&E Project would be in

the adjacent Kings Subbasin of the San Joaquin Valley Groundwater Basin, which is also a high-priority subbasin (DWR 2025a).

Water Code Section 10910 (SB 610) Water Supply Assessment

Senate Bill 610 (SB 610) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by counties and cities in California. The statute requires detailed information regarding water availability to be provided to decision-makers prior to approval of specified large development projects. The statute also requires detailed information to be included in the administrative record that serves as the evidentiary basis for an approval action for such projects. A water supply assessment is required, for example, for projects that would occupy more than 40 acres or demand an amount of water equivalent to or greater than the amount of water required for a 500 dwelling unit project. The water supply assessment for a given project must include a discussion of whether the total projected water supplies, determined to be available for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

National Pollutant Discharge Elimination System Construction General Permit

The National Pollutant Discharge Elimination System 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 one 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 one or more acres of soil, it would be subject to the Construction General Permit. As such, a stormwater pollution prevention program (SWPPP) would be required. See Section 3.11, *Hydrology and Water Quality*, for a more detailed discussion of water quality and SWPPP requirements.

Title 22 Universal Waste Rules

Title 22 of the California Code of Regulations discusses an array of requirements with respect to the disposal and recycling of hazardous and universal wastes. Specific standards and requirements are included for the identification, collection, transport, disposal, and recycling of hazardous wastes. Additional standards are included for the collection, transport, disposal, and recycling of universal wastes. *Universal waste* includes batteries, electronic devices, mercury-containing equipment, lamps, cathode ray tubes, and aerosol cans (California Code of Regulations [Cal. Code Regs.] Title 22, Section 66273.9). Requirements for universal wastes include recycling, recovery, returning 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 waste destination facilities and provides authorization requirements for various waste handlers. Title 22 includes California's Universal Waste Rule, along with other requirements for waste handling and disposal.

Construction and Demolition Waste Materials Diversion Requirements

Signed in 2002, the Construction and Demolition Waste Materials Diversion Requirements (SB 1374) were codified in Public Resources Code Section 42919. SB 1374 requires that jurisdictions include in their annual AB 939 report a summary of the progress made in diverting construction and demolition

solid waste. The legislation also requires that CalRecycle adopt a model ordinance for diverting 50 to 75 percent of all construction and demolition waste from landfills (CalRecycle 2023).

Title 24 California Code of Regulations

The California Green Building Standards Code (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 non-hazardous construction and demolition waste or to meet a local construction and demolition waste management ordinance, whichever is more stringent (CalRecycle 2023). In Fresno County, the CalGreen Code standards have been adopted and incorporated into the County's code by reference.

Title 27 California Code of Regulations

Title 27 of the California Code of Regulations includes requirements for the treatment, storage, processing, and disposal of solid waste. The State Water Resources Control Board maintains and regulates compliance with Title 27. Compliance with Title 27 would be enforced by the Central Valley Regional Water Quality Control Board.

California Health and Safety Code Section 25150.7

State requirements for the use, reuse, handling, and disposal of treated wood waste are identified in Health and Safety Code Section 25150.7 and ensure the protection of public health and the environment. The PG&E Project's removal of distribution wood poles (if required) would be subject to these requirements.

California Government Code 4216 Regional Notification System

Section 4216 of the Government Code protects underground structures during excavation. Under this law, excavators are required to contact a regional notification center at least two days prior to excavation of any subsurface installations. In the Project area, Underground Service Alert of Northern California and Nevada (USAN 811) is the regional notification center.

Local

Fresno County Local Area Management Plan

Under the effective Local Area Management Plan (LAMP), Fresno County Planning Department oversees the design, installation, and operation of on-site wastewater treatment systems including management of non-discharging liquid waste systems, and dispersal standards to protect water quality and limit nuisance conditions in the County. Consistent with state requirements, on-site wastewater treatment systems must meet capacity requirements and soil design application rates. Additionally, to prevent contamination of surface and groundwater, siting and design standards for septic tanks, dispersal systems (i.e., leach fields) are in effect under the LAMP, consistent with state water quality requirements. Effective LAMP construction and building standards for on-site wastewater treatment systems specify minimum setbacks to provide adequate distance to wells and springs, public water supply lines, surface waters (such as ponds and streams), buildings, structures, property lines, and easements. With limited exceptions, dispersal systems must also be located outside of flood hazard areas (Fresno County 2019).

Fresno County 2024 General Plan

The following Fresno County General Plan policies relate to public facilities, utilities, and water (Fresno County 2024).

General Public Facilities and Services

Policy PF-A.3 Industrial Infrastructure: The County shall require new industrial development to be served by community sewer, stormwater, and water systems where such systems are available or can feasibility be provided.

***Policy PF-A.5 Underground Utilities*:** 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

Policy PF-C.1 Retain Existing Water Supplies: The County shall engage in, and support, the efforts of others within Fresno County to retain existing water supplies and develop new water supplies.

Policy PF-C.3 Surface Water Use: 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.4 Water Storage: The County shall support efforts to expand groundwater and/or surface water storage that benefits Fresno County.

***Policy PF-C.8 Preserve Local Water Rights/Supply*:** The County shall work with local irrigation districts and water management agencies to preserve local water rights and supply.

Policy PF-C.15 Water Demand Impact Mitigation: If the cumulative effects of more intensive land use proposals are detrimental to the water supplies of surrounding areas, the County shall require approval of the project to be dependent upon adequate mitigation. The County shall require that costs of mitigating such adverse impacts to water supplies be borne proportionately by all parties to the proposal.

Policy PF-C.16 Water Supply Evaluation: The County shall, prior to consideration of any discretionary project related to land use, require a water supply evaluation be conducted. The evaluation shall include the following:

a. A determination that the water supply is adequate to meet the highest demand that could be permitted on the lands in question. If surface water is proposed, it must come from a reliable source and the supply must be made "firm" by water banking of other suitable arrangement. If groundwater is proposed, a hydrogeologic investigation may be required to confirm the availability of water in amounts necessary to meet project demand. If the lands in question lie in an area of limited groundwater, a hydrogeologic investigation shall be required.
b. If use of groundwater is proposed, a hydrogeologic investigation shall be required. Should the investigation determine that significant pumping-related physical impacts will extend beyond the boundary of the property in question, those impacts shall be mitigated.
c. A determination that the proposed water supply is sustainable or that there is an acceptable plan to achieve sustainability. The plan must be structured such that it is economically, environmentally, and technically feasible. In addition, its implementation must occur prior to long-term and/or irreversible physical impacts, or significant economic hardship, to surrounding water users.

Policy PF-C.18 Small Community Water Systems: The County shall discourage the proliferation of small community water systems.

Policy PF-C.19 Private Water Wells: The County shall not permit new private water wells within areas served by a public water system.

Policy PF-C.23 Water Conservation Technologies: 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

Policy PF-D.6 On-site Sewage Disposal Systems: 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

Policy PF-E.9 100-year Flood Protection: The County shall require new development to provide protection from the 100-year flood as a minimum.

Policy PF-E.11 Natural Site Drainage Pattern: The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.

Policy PF-E.13 Natural Storm Water Drainage Systems: The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.

Policy PF-E.14 Retention-Recharge Basins: 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.15 Basin Landscaping and Open Space: The County should require that retention-recharge basins be suitably landscaped to complement adjacent areas and should, wherever possible, be made available to the community to augment open space and recreation needs.

Policy PF-E.16 Minimal Sedimentation and Erosion: 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 PF-E.17 Groundwater Recharge: The County shall encourage the local agencies responsible for flood control or storm drainage retention-recharge basins located in soil strata strongly conducive to groundwater recharge to develop and operate those basins in such a way as to facilitate year-round groundwater recharge.

Policy PF-E.20 Storm Water Drainage Discharges: The County shall require new development of facilities near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in flood waters, flowing rivers, streams, creeks, or reservoir waters.

Policy PF-E.21 Best Management Practices: 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

Policy PF-F.1 Solid Waste Source Reduction: 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.2 Onsite Recycling Storage and Collection: The County shall require new commercial, industrial, and multi-family residential uses to provide adequate areas on-site to accommodate the collection and storage of recyclable materials.

Policy PF-F.5 County Integrated Waste Management Plan: The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.

Policy PF-F.8 Existing Public Landfills: The County has designated the American Avenue Landfill as the regional landfill to serve the incorporated and unincorporated areas of the county. The publicly-operated Coalinga and Clovis landfills may continue to operate provided the sites are operated economically and in compliance with all environmental laws and regulations. Existing publicly-operated landfills may be expanded.

Utilities

Policy PF-J.1 Existing and Future Utility Demands. The County shall encourage the provision of adequate gas and electric, communications, and telecommunications service and facilities to serve existing and future needs.

Policy PF-J.2 Gas and Electric Systems: The County shall work with local gas and electric utility companies to design and locate appropriate expansion of gas and electric systems, while minimizing impacts to agriculture and minimizing noise, electromagnetic, visual, and other impacts on existing and future residents.

Fresno County Well Permitting Program

Within their respective jurisdictions, WWD (as the relevant groundwater sustainability agency) regulates the *use* of water wells, and 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 following:

- California Well Standards Ordinance and the construction standards set forth in the California Well Standards (Bulletins 74-81 and 74-90).
- Fresno County Ordinance Code, Title 14, primarily Chapter 14.04 (Well Regulations–General Provisions).
- Chapter 14.08 (Well Construction, Pump Installation and Well Destruction Standards).
- Fresno County General Plan (Fresno County 2024) Policy PF-C.18 and PF-C.19.

Westside Groundwater Sustainability Agency

Westside Subbasin Groundwater Management Plan

The Rosemary Project site is located predominantly in the San Joaquin Valley Groundwater Basin-Westside Groundwater Subbasin (DWR Basin 5-22-09), which covers approximately 972 square miles in western Fresno and Kings County. DWR has identified the Westside Subbasin as in critical condition of overdraft and a high priority groundwater subbasin within the context of SGMA (DWR 2025a). The

groundwater sustainability goal in the Westside Subbasin GSP is to help ensure that by 2040, and through the planning and implementation period of the subbasin's GSP (through 2070), the subbasin is operated within its sustainable yield and does not exhibit undesirable results. Management actions and projects to achieve this goal include surface water imports, initial allocation of groundwater extraction, aquifer storage and recovery, targeted pumping reductions, and percolation basins (Appendix J). WWD acting as GSA aims to manage groundwater resources responsibly and sustainably in order to maintain acceptable standards of groundwater levels, groundwater quality, groundwater storage, and subsidence. WWD as GSA for the subbasin has established measurable objectives to track and manage groundwater sustainably, including through monitoring well groundwater levels. Project and Management Actions aimed at augmenting groundwater supply and reducing demand are also being implemented to address the specific goals in the GSP. Project and management actions include, among other actions, targeted reductions in groundwater pumping in the subsidence-prone portions of the basin; developing storage and recharge projects; and offsetting reliance on groundwater through imported water (WWD 2022).

North Fork Kings Groundwater Sustainability Agency

North Fork Kings GSA Groundwater Sustainability Plan

Portions of the PG&E Project site are located in the Kings subbasin (DWR Basin 5-022-08) of the San Joaquin Valley Groundwater Basin, which covers an area of approximately 1,533 square miles (DWR 2025b). The North Fork Kings GSA is one of seven GSAs within the Kings Subbasin, located in the southwest portion of the subbasin. DWR has also identified the Kings subbasin as critically overdrafted. The subbasin is considered a high-priority groundwater subbasin within the context of SGMA (DWR 2025a). The sustainability goal of the North Fork Kings GSP is to ensure that by 2040 the basin is being managed to maintain a reliable water supply for current and future beneficial uses without experiencing undesirable results. It is expected that the goal will be met by balancing water demand with available water supply and stabilizing the long-term trend of declining groundwater levels without significantly or unreasonably impacting groundwater storage, water quality, land subsidence, or interconnected surface water (North Fork Kings GSA 2025).

3.19.2 Significance Criteria

A project would result in significant impacts on Utilities or Service Systems if it would:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

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 Standard Practices

The Rosemery Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of these, the actions described in Section 2.5.9.2, *Erosion and Sediment Control Measures*, could reduce potential Project stormwater-related impacts on utilities and service systems.

Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.1, *Electric and Magnetic Fields*, would limit public exposure to electromagnetic fields, as related to electrical infrastructure development, and Section 2.6.7.7, *Other Construction Measures and Practices,* includes prohibitions on trash dumping as they relate to solid waste effects, and spill and erosion control measures as they relate to stormwater.

3.19.3.2 Methodology

The Project proposes new and replacement electric power facilities, the construction of which could cause environmental effects. Such effects are discussed and analyzed on a resource-by-resource basis throughout this Draft EIR. The following subsections evaluate whether the Project could result or require the construction or relocation of new or expanded facilities beyond those proposed.

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 within Fresno County. 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 governing utilities and that those regulations would continue to be enforced to the same extent that they are currently.

3.19.3.3 Direct and Indirect Effects of the Project

Criterion a) Whether the Project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

The Project would not use natural gas for construction, operation and maintenance (O&M), or (specific to the Rosemary Project) decommissioning. Therefore, the Project would not result in the relocation or construction of any new or expanded natural gas facilities, and natural gas facilities are not discussed further. The Project would not result in the consumption of natural gas and would not require the

construction or operation of new natural gas utilities to support the Project. There would be **no impact** associated with the construction or operation of new natural gas utilities. (*No Impact)*

Impact 3.19-1: The Rosemary Project would require the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities which could cause environmental effects. (*Less-than-Significant Impact*)

The Rosemary Project is a renewable energy project that involves the construction, operation, maintenance, and decommissioning of a solar facility, battery ESS, on-site substation, gen-tie lines, and associated infrastructure to generate, convert, and store 140 megawatts of alternating current (MW_{AC}). Consistent with safety standards, the battery ESS containers would be equipped with temperature control (heating, ventilating, and air conditioning [HVAC]) equipment, appropriate fire safety systems, and one or more emergency backup generators to power the HVAC system in the event of primary power loss.

Water

As proposed, the Rosemary Project would require water for construction, anticipated to be provided through WWDs groundwater wells near the site. Drinking water for construction/decommissioning and operational staff would come from bottled potable sources provided from a nearby vendor. Water for fire suppression and response would be made available via one or more aboveground water storage tanks, with a total capacity of up to approximately 50,000 gallons. O&M water requirements include use for sinks and toilets in a proposed O&M building. This analysis assumes piped plumbing and an on-site water tank could be installed near the O&M building to serve these facilities as part of the Project. Water use is described in additional detail in Appendix J. Because water requirements to serve the Project could be met through the identified sources, minimal expansion of water facilities would occur as part of the Rosemary Project. Therefore, related impacts would be **less than significant**.

Wastewater

No new or expanded wastewater treatment facilities are proposed, nor would any be required for the Rosemary Project. Portable restroom facilities would be provided for construction workers during the up to 18- month duration of construction. During the O&M phase, sanitary facilities would likely be provided through a septic system at or near the proposed O&M building. The in-ground septic system would include a septic tank and leach field, subject to standard County design and review protocols. Sanitary waste would be contained on-site and periodically removed by a septic maintenance provider. If a septic system is not installed, then portable restroom facilities would continue to be used at the Rosemary Project site during the operations phase. It is anticipated that such facilities would also be temporarily placed on site during decommissioning. For these reasons, the Rosemary Project would not require or result in the construction or relocation of new or expanded wastewater facilities that would cause an adverse environmental effect. The proposed on-site septic system would be designed and maintained consistent with Fresno County LAMP standards and in conformance with building code requirements. The LAMP requirements include setback limits to neighboring properties and aquatic features as is necessary to protect public health and the environment (Fresno County 2019). Because the Rosemary Project would conform to the local requirements, potential impacts associated with such facilities would be **less than significant**.

Stormwater

As noted in Section 3.19.3.1 and detailed in Section 2.5.9.2, erosion control measures are proposed by the Applicant and would be implemented to reduce runoff and control erosion, consistent with Construction General Stormwater Permit requirements. The Rosemary Project site plan includes up to 6 stormwater retention basins proposed to capture runoff during construction of the Rosemary Project. Construction, O&M, and eventual decommissioning of these stormwater retention basins would not require the construction of any additional new (or expansion of existing) stormwater facilities, which could result in environmental effects. Impacts associated with the planned stormwater facilities would be **less than significant**.

Electrical Facilities

The Rosemary Project would require limited power from the regional grid, (e.g., from temporary overhead pole electrical connections during construction and decommissioning) and overall would contribute substantially more power to the grid than it would draw. Although the connections proposed as part of the Rosemary Project could result in potential environmental impacts (as discussed in the various resource sections of this EIR), the Rosemary Project would not result or require the construction or relocation of other new or expanded electric facilities beyond those analyzed as part of the Project. For these reasons, impacts associated with new or expanded electrical facilities would be **less than significant**.

Telecommunications Facilities

The Rosemary Project proposes new telecommunications infrastructure (described in Section 2.5.3.4) to connect to existing local telecommunication services and allow for remote monitoring and diagnostics of Project components. Although the connections proposed as part of the Rosemary Project could result in potential environmental impacts (as discussed in the various resource sections of this EIR), the Rosemary Project would not result or require the construction or relocation of other new or expanded telecommunication facilities beyond those on site and analyzed as part of the Project. For these reasons, impacts associated with new or expanded telecommunication facilities would be **less than significant**.

Mitigation: None required.

Impact 3.19-2: The PG&E Project would require the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities which could cause environmental effects. (*Less-than-Significant Impact*)

The PG&E Project would not require the construction of any water, stormwater, or wastewater treatment facilities. As is detailed in Section 2.6, the PG&E Project components would include replacement conductor, modification or replacement of poles or support structures and minor improvements (replacement or addition of new equipment, such as terminal equipment, circuit breakers, and poles) to the existing PG&E Helm Substation and/or Crescent Switching Station, within those existing facility boundaries. Minor telecommunications improvements could accompany the proposed replacement of electrical conductor (lines) and their support structures (poles). It is anticipated that the facilities would operate in perpetuity. No decommissioning is anticipated for the PG&E Project. All construction, operation, and maintenance of the electrical facilities would occur within the existing fenced substation, switchyard, and within PG&E utility corridor rights of way. It is anticipated that temporary disturbance, noise, dust, and other environmental effects associated with this work may occur (as is analyzed

throughout this EIR). Because PG&E would time the work to occur when the power could be diverted to another line, no service disruptions are anticipated. PG&E also would implement various standard measures during construction (described in Section 2.6.7), including spill and erosion control measures to reduce the adverse effects of erosion and sedimentation on stormwater. Measures to reduce public exposure to electric and magnetic fields would be employed in accordance with state guidelines, and PG&E policies. Such measures would effectively limit impacts. For these reasons, the PG&E Project would not require the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities, the construction or relocation of which could cause significant environmental effects. This impact would be **less than significant**.

Mitigation: None required.

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.

Impact 3.19-3: The Rosemary Project's construction or operational water demand may exceed local or regional supplies. (*Less-than-Significant Impact*)

Consistent with the requirements in SB 610, qualifying projects meeting definitions in California's Water Code Section 10912 must prepare a water supply assessment demonstrating that a project's water demand (in addition to the demand of other reasonably foreseeable projects) could be met through available supplies in normal, single-dry, and multiple dry years. There are no known sources of piped potable or reclaimed water at or near the Rosemary Project site. As detailed in Appendix J, a water supply assessment was conducted to evaluate water demand posed by the Rosemary Project relative to available supplies. WWD was identified in the WSA as the probable supplier of the Rosemary Project's construction and operational water requirements. Potential sources of Project water supply include WWD's three sources (surface water, groundwater, and other water supplies). It is estimated that construction would require up to 325 acre-feet over an 18-month timeframe. Water demand for decommissioning purposes is conservatively assumed to be similar. Operational water demands are estimated to be up to 6.3 acre-feet per year.

Twenty-year projections (under normal, single dry, and multiple dry year conditions) were not available. However, as a proxy for this analysis, the WSA used various factors (e.g., relative supply and demand and the groundwater budgets prepared for the regional GSP) to determine the sufficiency of WWD's and the region's water supplies relative to the Rosemary Project's water demand. The GSP[3] for the Westside subbasin (WWD 2022) provides annual groundwater projections through 2070 for multiple water year types, which was used to evaluate water supply projections under normal, single dry, and multiple dry years. Based on this information, the WSA noted that the annual construction and O&M water demand of the Rosemary Project represents less than 0.3 percent of both the projected regional imported surface water volumes and groundwater in storage in 2025 through 2070. Further, WWD has agreed to allow extraction of up to 635 acre-feet during construction using groundwater supplies or WWD provided water, or 310 acre-feet more than the Rosemary Project would require over the 18-month construction

[3] A small portion of the Rosemary Project site is located in the Kings subbasin under the groundwater sustainability jurisdiction of the North Fork Kings GSA. However, water would not be drawn from this location and is therefore not discussed further in this section.

period, as well as 9.8 acre-feet from groundwater wells near the Rosemary Project site during operations, or 3.5 acre-feet more than the Rosemary Project would require during O&M. Impacts to the Westside Groundwater Subbasin would be insignificant and have been accounted for by WWD in its management of the subbasin. The WSA concluded that the water supply of the region is sufficient to meet the demands of the Rosemary Project through buildout (2068). The incremental impact of the Rosemary Project on cumulative change in groundwater in storage over the 2026-2068 timeframe is 0.03 percent for the Westside Subbasin (Appendix J).

Therefore, the Rosemary Project's anticipated water demand would not exceed local supplies. The impact would be **less than significant**.

Mitigation: None required.

PG&E Project

The PG&E Project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. (*No Impact*)

Typically, reconductoring projects like the PG&E Project require minimal water for dust control and other potential needs during construction (such as concrete for support structure foundations, if needed). Due to the nature of the proposed work, there would be no ongoing demand for water once operational. Because O&M activities for the PG&E Project would be the same as those that are implemented under the existing (baseline) conditions, the PG&E Project would cause no change in water use (and no impact) during O&M. Because the PG&E Project would not require water in exceedance of local supplies, **no impact** would result.

Criterion c) Whether 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.

Impact 3.19-4: The Rosemary Project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (*Less-than-Significant Impact*)

During construction and decommissioning, it is anticipated that portable toilets would be utilized by construction personnel. At the peak of construction, an estimated 204 workers may be on site. No on-site septic systems would be developed to serve construction purposes. The portable units would be serviced by an external licensed wastewater treatment service provider, most likely within Fresno County. Therefore, the temporary demand for wastewater treatment associated with construction or decommissioning would not result in capacity exceedances. The associated impact would be **less than significant**.

Once operational, the Rosemary Project would not require a sewer connection or external wastewater treatment by a local provider. As described in Section 2.5.3.3, O&M facilities would include a septic tank and dispersal field designed consistent with Fresno County LAMP standards (Fresno County 2019). One or more aboveground water tanks (with a total capacity of up to approximately 50,000 gallons) would

also be installed near the O&M building to serve the office's water requirements and provide fire suppression capabilities. It is assumed that water lines connecting the water tanks to the O&M facilities and leach lines for the septic system would be necessary. Because the site could accommodate an on-site wastewater or septic system and these facilities would be designed, constructed, and operated in compliance with Fresno County LAMP standards, external wastewater demand would not occur once operational. Therefore, there would be no demand related to wastewater treatment capacity and **no impact** would occur associated with operation and maintenance of the Rosemary Project.

Mitigation: None required.

PG&E Project

The PG&E Project would not result in a determination by a wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (*No Impact*)

The PG&E Project would not entail any permanent staffing increases that could place ongoing demands on local wastewater treatment capacity. During construction, similar to the Rosemary Project, a temporary construction workforce would be likely to require portable toilets that could be serviced externally to any construction work sites. The temporary demand for service and treatment of these portable units would not result in ongoing wastewater treatment capacity exceedances. Therefore, there would be **no impact**.

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.

Impact 3.19-5: The Rosemary Project could generate 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*)

As described in Section 2.5.5.2, solid waste generated during construction would include debris such as concrete, wood, brick, glass, plastics, and scrap metal. To the maximum extent feasible, soils from drilling, trenching, or excavation would be screened and separated for use as backfill at the site. Similarly sized utility-scale solar facilities typically generate as much as 22 cubic yards (2.5 tons) of waste weekly during construction (Fresno County 2021). The American Avenue Landfill and the City of Clovis Landfill (as described in Section 3.19.2) each have adequate capacity to accept these quantities of solid waste. As discussed in Section 2.5.5.2, the Applicant has committed to reducing the amount of discarded waste. A construction waste recycling program would be implemented pursuant to the California Green Building Code Standards. The Rosemary Project's contractors and workers would be trained on waste sorting, appropriate recycling storage areas, and measures to reduce landfill waste. Because the identified solid waste facilities have adequate capacity and the Rosemary Project would, to the maximum extent feasible, reduce solid waste generation, the resulting impacts to solid waste during construction would be **less than significant**.

During normal operation, PV panels, battery ESSs, and inverters produce no waste. Based on similarly sized utility-scale solar facilities, it is anticipated that the Rosemary Project could generate approximately

one cubic yard of waste weekly (Fresno County 2021). Waste generation during the 40-year O&M phase would be minimal, consisting of items such as deactivated equipment and parts, defective or broken materials, empty nonhazardous containers, miscellaneous solid waste, and typical refuse from O&M staff. Rosemary Project O&M staff would arrange for removal of solid waste regularly for disposal in local landfills in accordance with applicable regulations. The estimated quantities of solid waste generated once operational would be negligible and would not exceed the capacity of existing active landfills. Therefore, the resulting impacts to solid waste during O&M would be **less than significant**.

As discussed, the Rosemary Project would be subject to the construction and demolition debris recycling requirements in effect for Fresno County, consistent with the CalGreen Code standards. A decommissioning and site reclamation plan has been prepared for the Rosemary Project (**Appendix B1**), which details the reclamation basis and scope, and includes presumed quantities of solid waste that would be generated for each of the solar facilities (Appendix B1, Table 1-1). As noted in the plan, raw materials such as copper and steel have a demonstrated resale value. Metal structures and wire would be dismantled and sold for reuse. The plan outlines the decommissioning process, reclamation activities, and the plan for materials salvage. The plan outlines the various components of the three proposed solar installations and shared facilities. The identified components include driven piles, racking/tracking systems, PV solar modules, power conversion stations, container boxes, SCADA, met stations, ESS station skids, ESS battery cell modules, project fencing, AC and DC collection system cables. The shared facilities would be dismantled and the site restored to pre-construction conditions. Shared components include substation equipment, generator transmission lines, an O&M building, concrete, fencing, and gates.

Most of these components are constituted of recyclable materials that could be sold for scrap following the Rosemary Project's useful term of service. Some of these components, notably including the solar modules and ESS equipment, do not currently have a market for resale. Although the reclamation plan indicates that a resale market may emerge by the time of decommissioning, the plan acknowledges the uncertainty of market conditions for reuse and salvage. For analysis purposes, it is assumed that the PV panels and non-recyclable ESS equipment would be dismantled and disposed of in accordance with the requirements in effect at the time of decommissioning. PV panels typically in use for utility-scale solar facilities consist of a crystalline-silicon based technology. Many of the components of these PV solar panels, including the glass metal frame, copper wire, and plastic parts can easily be recycled. Other metals can be more challenging to process for recycling and may contain hazardous materials (see Section 3.10, *Hazards and Hazardous Materials*). As noted, the Project would be subject to CalGreen Code standards for construction and demolition debris recycling, and other requirements with respect to solid waste. The residual quantity of materials not savaged for resale or recycled at the time of decommissioning would not be expected to exceed the solid waste capacity of local landfills identified in Section 3.19.1.2. Fresno County requires a permit for demolition, which requires applicants to complete a construction and demolition debris recycling application.

The information provided in the Decommissioning and Site Reclamation Plan (Appendix B1) states that many of the components that would be dismantled are composed of materials that could be recycled or have salvageable value. For this reason, it is expected that scrap metals and reusable components would be salvaged or otherwise recycled. Furthermore, there are enforceable Fresno County permit requirements in place that require projects to demonstrate construction demolition debris diversion, consistent with state CalGreen Code requirements. Because the Rosemary Project would recycle most of the components

as described in the decommissioning plan, the Rosemary Project would not generate solid waste exceeding the capacity of local landfills. Therefore, the resulting impacts to solid waste during decommissioning would be **less than significant**.

Mitigation: None required.

PG&E Project

The PG&E 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. (*No impact*)

Reconductoring, substation upgrades, and other PG&E work would entail activities and use of materials that would generate a very small amount of solid waste, associated with poles taken out of service, discarded construction material packaging, and construction personnel refuse. The small quantities of waste could easily be transferred to a landfill or otherwise disposed of by PG&E staff or contractors. Local landfills have adequate capacity to accommodate such waste. Once reconductoring is complete, the PG&E Project would cause no net change relative to existing (baseline) conditions with respect to the generation of solid waste. The PG&E Project would operate and be maintained in perpetuity; no decommissioning is planned for these facilities. Because the minimal amount of solid waste generated during these activities would not exceed the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals, the PG&E Project would have **no impact** regarding criterion d).

Criterion e) Whether the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Rosemary Project

The Rosemary Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. *(No Impact)*

As discussed above, the Rosemary Project would be subject to the construction and demolition debris recycling requirements in effect for Fresno County, consistent with the CalGreen Code standards, and would comply with the commitments made in the Applicant-prepared Decommissioning and Site Reclamation Plan for the Rosemary Project (Appendix B1). Actions taken to comply with the law and implement the Decommissioning and Site Reclamation Plan would assist the County in complying with the solid waste reduction goals of AB 939. Rosemary Project operation would generate a negligible amount of solid waste and an on-site dumpster would be collected weekly by operational staff or a contracted commercial waste management service. Therefore, the Rosemary Project would not conflict with local solid waste mandates or other regulations related to solid waste and **no impact** would occur.

PG&E Project

The PG&E Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. (*No Impact*)

The PG&E Project would adhere to all applicable local, state, and federal regulations governing solid waste for the proposed reconductoring activities. The small quantity of solid waste that could be generated during reconductoring, substation upgrades, and other activities would be handled, transported, and disposed of in accordance with all applicable regulations. Therefore, there would be no conflict with local, state, or federal regulations related to solid waste and **no impact** would occur.

3.19.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.19-1**, *Summary of Project Impacts on Utilities and Service Systems*, summarizes the impacts of the Project as a whole on utilities and service systems.

TABLE 3.19-1
SUMMARY OF PROJECT IMPACTS ON UTILITIES AND SERVICE SYSTEMS

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

3.19.4 Cumulative Effects

The geographic scope of potential cumulative effects related to utilities and service systems would include the service areas of the utility and service providers that would serve the Project site.

Criterion a) Whether the Project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

As discussed under Impact 3.19.1, the Rosemary Project and PG&E Project would cause no impact regarding the relocation or construction of any new or expanded natural gas facilities and so would not cause or contribute to any cumulative effect in this regard. (*No Impact*)

Impact 3.19-1c: The Rosemary Project would not make a cumulatively considerable contribution to any significant impact regarding the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities, which could cause environmental effects. (*Less-than-Significant Impact*)

As discussed under Impact 3.19.1, the Rosemary Project would generate less-than-significant impacts associated with minor water, wastewater, storm water drainage, electrical, and telecommunications facilities proposed as part of the Project upon the rural site. Most of the projects in the cumulative scenario (Table 3.1-1) are also renewable energy generation and storage facilities, similar in size to the Rosemary Project. These projects would likely include some of the same appurtenant water facilities, on-site wastewater treatment systems, stormwater basins, and interconnections to accommodate their facilities, similar to the Rosemary Project. The minor contributory impacts of the Project in combination with the incremental impacts of other projects, would not create a significant adverse impact and the cumulative effect would be **less than significant**.

PG&E Project

As discussed in the context of criterion a) in Section 3.19.3.3, *Direct and Indirect Effects of the Project*, the PG&E Project would enhance the reliability of an existing transmission corridor and enable interconnection of the Rosemary Project. As proposed, the PG&E Project would cause **no impact** from requiring or resulting in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage facilities, the construction or relocation of which could cause significant environmental effects. Therefore, it would not cause or contribute to any cumulative effect regarding these considerations. (*No Impact*)

Impact 3.19-2c: The PG&E Project would not make a cumulatively considerable contribution to any significant impact regarding the construction or expansion of electrical and telecommunications facilities, which could cause environmental effects. (*Less-than-Significant Impact*)

The PG&E Project would cause an incremental, less-than-significant impact related to the construction of electrical and associated telecommunications facilities. All related construction and O&M activities would occur within existing fenced areas of the PG&E Helm Substation and Crescent Switching Station, or within the existing PG&E utility corridor for the pole replacement and approximately 5 linear miles of power lines to be reconductored. The minor contributory impacts of the PG&E Project in combination with the incremental impacts of other projects, would not create a significant adverse impact and the cumulative effects would be **less than significant**.

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.

Impact 3.19-3c: The Rosemary Project would not cause a cumulatively considerable impact due to construction or operational water demand that may exceed local or regional supplies. (*Less-than-Significant Impact)*

The cumulative effect on water supply posed by the Rosemary Project's water demand was evaluated in the WSA (Appendix J), which concluded that the water supply of the region is sufficient to meet the demands of the Rosemary Project through the operational timeframe (2068). WWD as GSA for the Westside

Subbasin manages the groundwater sustainably to meet the long-term reliability goals identified in the GSP. The incremental impact of the Rosemary Project on cumulative change in groundwater in storage over the 2026–2068 timeframe is 0.03 percent for the Westside Subbasin. This is a less-than-significant cumulative effect on water supplies.

PG&E Project

As discussed in the context of criterion b) in Section 3.19.3.3, *Direct and Indirect Effects of the Project*, the PG&E Project would cause **no impact** relating to the sufficiency of available water supplies to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Therefore, it would not cause or contribute to any cumulative effect on water supply. (*No Impact*)

Criterion c) Whether 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.

Impact 3.19-4c: The Rosemary Project would not make a cumulatively considerable contribution to any cumulative effect regarding a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. ***(Less-than-Significant Impact)***

The Rosemary Project would result in an incremental, less than significant contribution to potential cumulative effects regarding wastewater treatment. Proposed treatment would occur through an on-site wastewater treatment system or septic system, consistent with all public health and safety requirements and regulatory requirements outlined in the LAMP. Fresno County's LAMP manages to standards that are intended to protect water quality and limit nuisance conditions in the County and be consistent with state requirements. Community-wide compliance with the independently enforceable requirements (including by other projects in the cumulative scenario that include on-site waste management systems) would avoid a significant adverse cumulative effect. Accordingly, there would be no significant adverse cumulative effect to which the Rosemary Project could contribute, and the Rosemary Project's incremental, project-specific, less-than-significant impact would not alone cause one. The cumulative effect would be **less than significant**.

PG&E Project

As discussed in the context of criterion c) in Section 3.19.3.3, *Direct and Indirect Effects of the Project*, the PG&E Project would cause **no impact** relating to a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Therefore, it would not cause or contribute to any cumulative effect on wastewater treatment capacity. (*No Impact*)

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.

Impact 3.19-5c: The Rosemary Project would not make a cumulatively considerable contribution to a significant adverse cumulative effect regarding the generation of waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or regarding other impairment of the attainment of solid waste reduction goals. (*Less-than-Significant Impact*)

As discussed under Impact 3.19.5, the Rosemary Project would have a less-than-significant impact on local landfill capacity. The majority of project components contain materials that are recyclable or could be salvaged for resale. The residual less-than-significant impact would contribute an incremental impact when considered along with the solid waste effects other projects in the cumulative scenario (Table 3.1-1). As with the Rosemary Project, other solar facilities would be required to provide decommissioning and reclamation plans as part of Fresno County's conditional use permit application process. Like the Rosemary Project, these projects would be subject to the CalGreen Code standards and local C&D debris diversion requirements in effect in Fresno County. Communitywide adherence to these independently enforceable obligations would avoid a significant adverse cumulative effect. Accordingly, there would be no significant adverse cumulative effect to which the Rosemary Project could contribute, and the Rosemary Project's incremental, project-specific, less-than-significant impact would not alone cause one. The cumulative effect would be **less than significant**.

PG&E Project

As discussed in the context of criterion d) in Section 3.19.3.3, *Direct and Indirect Effects of the Project*, the PG&E Project would cause **no impact** regarding the consistency with solid waste standards, capacity, or reduction goals. Therefore, it would not cause or contribute to any cumulative effect regarding solid waste. (*No Impact*)

Criterion e) Whether the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

As discussed in the context of criterion e) in Section 3.19.3.3, *Direct and Indirect Effects of the Project*, the Project (including the Rosemary Project and the PG&E Project) would cause **no impact** regarding compliance with solid waste statutes and regulations. Therefore, the Rosemary Project and the PG&E Project would not cause or contribute to any cumulative effect regarding solid waste. (*No Impact*)

3.19.5 References

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3.20 Wildfire

Wildfire is defined as an *unplanned unwanted wildland fire* in California Government Code Section 51177. Wildland fires affect grasslands, forests, and brushlands, as well as any structures on these lands, and carry the potential for injury, loss of life, and property damage. Such fires can occur from either human-generated factors or natural causes. The type and amount of fuel, topography, and weather are the primary factors influencing the degree of fire risk in an area.

This section identifies and evaluates issues related to wildfire, including potential impacts on emergency response or emergency evacuation plans, exposure of Project occupants to pollutants from or the spread of wildfire, the exacerbation of fire risk, and the exposure of people or structures to other significant wildfire risks. This section identifies the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used to evaluate impacts, and the results of the impact assessment. The County did not receive any scoping comments pertaining to wildfire or fire risk. See **Appendix A**, *Scoping Report*.

3.20.1 Setting

3.20.1.1 Study Area

The study area for this analysis of wildfire risk, emergency response and evacuation, and post-fire pollution and runoff-related impacts includes the Project site (i.e., the Rosemary Project site plus the PG&E Project site) and the surrounding parcels and related access roads, structures, and vegetation. The study area also includes Fresno County more generally.

3.20.1.2 Environmental Setting

Fire behavior is 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 factors, described in detail below, influences the degree of risk if a fire occurs in the study area and can either help or hinder its spread.

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 travels through an area: fire typically moves faster as it travels uphill than when it moves downhill or across flat terrain. As heat rises in front of a fire, it preheats and dries upslope fuels, resulting in their rapid combustion (Bennett 2017).

Fresno County is situated in California's San Joaquin Valley, with the foothills and high mountains of the Sierra Nevada to the east, the moderately high mountains and foothills of the Coast Ranges to the west, and broad, flat valley floors that generally slope from the southeast to the northwest (Fresno County 2018). Approximately 55 percent of the County is mountainous, and the remaining 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.

The Project site is located in western Fresno County, which is predominantly flat terrain. Its surrounding areas are also dominated by flat terrain and primarily consist of grazing land, cultivated and fallowed agricultural land, and undeveloped land. The San Joaquin Valley is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Tehachapi Range to the south, and the Cascade Range to the north. These mountain ranges provide a buffer from Pacific marine weather systems that are drawn inland by the jet stream. The San Joaquin Valley's topography, as such, has a dominating effect on wind flow patterns in Fresno County.

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; brush; and dry grasses. Additional fuel sources can include structures such as homes, buildings, and other associated combustible materials. The amount of fuel—known as *fuel loading* and expressed in tons per acre—and its vertical and horizontal arrangement affect fire intensity and the ability of surface flames to spread. The size, moisture, and chemical content of fuels also influence combustion and fire behavior (Bennett 2017).

Fuel types in the study area are primarily composed of annual grasses, with some deciduous oaks and heavy brush also occupying western Fresno County (Fresno County 2018). No forests exist on the Project site, but there is an orchard west of the Rosemary Project site. The Project site and its surrounding area predominantly consist of agricultural and shrub vegetation, including fallowed agricultural land with few trees, brush, or branches. This relative lack of vegetative fuels notably decreases fire hazard risks. An additional description of vegetation types surrounding the Project site can be found in 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.

Weather conditions at the Project site are consistent for southwestern Fresno County. The valley exhibits long, hot, and dry summers with sparse rainfall occurring primarily in winter (Fresno County 2018). Throughout the year, temperatures typically vary from 39 degrees Fahrenheit (°F) to 99°F and are rarely below 31°F or above 106°F. Wind is bounded by the mountain ranges and typically blows parallel to the valley, from the northeast to the southwest. In the summer, winds are usually light in the mornings and become increasingly stronger as temperatures increase throughout the day.

Impacts of Wildfire on Air Quality

As wildfires burn fuel, large amounts of carbon dioxide, black carbon, brown carbon, and ozone precursors are released into the atmosphere.[1] 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 populations in regions

[1] *Black carbon*, also known as soot, is a short-lived climate pollutant and a major component of particulate matter pollution, formed through the incomplete combustion of fuels like fossil fuels, wood, and biomass. *Brown carbon* is a type of light-absorbing organic aerosol, primarily emitted through biomass burning, that contributes to climate change and impacts air quality. *Ozone precursors* are chemical compounds that react in the presence of sunlight to form ground-level ozone.

that are farther from the wildfires (NOAA 2022). Exposure to these pollutants can cause asthma attacks, coughing, and shortness of breath, and chronic exposure to these pollutants can increase the risk of developing chronic health conditions. Section 3.4, *Air Quality*, contains additional information about air emissions and contaminants.

Fire History

Concerns surrounding wildfire are ongoing both within Fresno County and the State of California. In Fresno County, the fire season historically extends through the hot, dry months from June through October. Since 2010, the length of the fire season in Fresno County has been increasing, typically starting in May and extending into November; however, wildfires can occur at any time of the year. According to the Fresno County Fire History Map within the Multi-Jurisdictional Hazard Mitigation Plan, most fires occur in either the eastern or western portions of Fresno County (Fresno County 2018). Few to no historical wildfires are known to have occurred in the San Joaquin Valley and none on the Project site, which is in the southwest region of the County (CAL FIRE 2025). The Project site is, thus, not within either of the areas of increased risk (Fresno County 2018).

CAL FIRE Fire Hazard Severity Zone Designations

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). CAL FIRE has designated and mapped Fire Hazard Severity Zones (FHSZ) in SRAs, which range from "moderate" to "very high," to indicate risk and severity of wildfire. The nearest FHSZs in any jurisdiction are located more than 12 miles west and southwest of the Project site and are designated from Moderate to High (CAL FIRE 2007). Local Responsibility Areas (LRAs) can include incorporated cities, more densely populated areas, desert areas, or agriculture lands with fire protection typically provided by city fire departments, fire protection districts, counties, and/or joint agreements with CAL FIRE. In LRAs, CAL FIRE does not have the jurisdiction to officially designate FHSZs and has, rather, published maps for recommended Very High FHSZs, which cities and counties are encouraged to adopt into their local plans. The Project site is entirely within an LRA under the fire protection authority of Fresno County. No Very High FHSZs have been recommended in Fresno County (CAL FIRE 2023). This indicates a low level of concern by CAL FIRE regarding wildfire hazard in the vicinity of the Project site.

California Public Utilities Commission–High Fire Threat District Maps

Pursuant to its fire safety rulemaking, the California Public Utilities Commission (CPUC) has mapped high-fire-threat districts where more stringent inspection, maintenance, vegetation clearance, and wire clearance requirements (pursuant to 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. This includes above ground transmission lines, such as the proposed gen-tie line. The CPUC High Fire Threat District Map identifies elevated risk for fires associated with utility infrastructure based on criteria such as fire hazards associated with historical power line-caused wildfires and current fuel conditions. Geographic areas are evaluated based on fire/ ignition source locations, as opposed to where potential fires may occur. The Project site is not located in a CPUC-designated High Fire Threat District (CPUC 2021).

Fire Protection Services

Due to the Project site's designation as an LRA, primary fire protection services in the vicinity of the Project site are provided by the Fresno County Fire Protection District (FCFPD). The closest fire station to the Project site is District Station 95, which is located at 25101 Morton Street in Tranquility (Fresno County 2023). Section 3.16, *Public Services*, outlines additional details regarding fire protection services.

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 comprised of 10 regional reliability councils. The mission of the NERC is to help ensure the effective and efficient reduction of risks to the reliability and security of the North American electric grid. NERC develops and enforces reliability standards, monitors the bulk power systems, and educates, trains, and certifies industry personnel. 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 (kV) and higher, as well as lower voltage lines designated by the Regional Reliability Organization as critical to the reliability of the electricity grid (NERC 2009).

As outlined in NERC Standard FAC-003, Transmission Vegetation Management, the transmission vegetation management program became effective April 7, 2006, and applies to PG&E's transmission line-related vegetation management activities. Requirements of the transmission vegetation management program include identifying and documenting clearances between vegetation and any overhead, ungrounded supply conductors while accounting for 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 (NERC 2009). NERC's transmission vegetation management program requirements are applicable to the PG&E Project.

State

CALFIRE Strategic Fire Plan for California

The *CAL FIRE Strategic Plan 2024: Transforming Tomorrow*, was developed by the State Board of Forestry and Fire Protection and is CAL FIRE's 5-year strategic plan that builds on the goals and objectives of the previous strategic plans. The plan's goals includes the following (CAL FIRE 2024):

(1) Attract, hire, and retain quality employees.

(2) Ensure all employees understand how the Department's various programs and job duties contribute towards efficiently achieving the CAL FIRE mission.

(3) Promote a culture that values equitable access, embraces diverse backgrounds and experiences, and actively removes barriers to cultivate a more inclusive environment.

(4) Leverage technology to modernize internal human resources processes and create efficient and effective innovative solutions to promote, support, and enhance the employee experience.

(5) Strengthen the Department's physical and digital infrastructure and streamline equitable access to information across core services.

(6) Identify core capabilities and strengthen operational capacity.

California State Emergency Plan

Pursuant to the Emergency Services Act (Government Code Section 8550 et seq.), California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governmental agencies and private entities. It provides an overview of how the state prepares, mitigates, responds, and recovers from emergencies in California. Administered by the Governor's Office of Emergency Services, the plan aids in guiding state agencies, local jurisdictions, and the public on emergency management, including but not limited to rapid response to incidents involving wildfire and other natural or human-caused incidents. The Governor's Office of Emergency Services coordinates the responses of other agencies, including the U.S. Environmental Protection Agency, California Environmental Protection Agency, California Highway Patrol, California Department of Fish and Wildlife, regional water quality control boards, local air districts, and local agencies (Cal OES 2023). The California State Emergency Plan describes the state's hazards and vulnerabilities, provision of mutual aid, emergency response capabilities of state agencies, resource mobilization, public information, and continuity of government during an emergency or disaster.

California Fire Code

The 2022 California Fire Code, the most recent fire code, is contained within Title 24, Part 9 of the California Code of Regulations. Similar to the International Fire Code (ICF) and the California Building Code, the California Fire Code uses a hazards classification system to determine the appropriate measures to incorporate to protect life and property. The California Fire Code is based on the International Fire Code and regulates use, handling, and storage requirements for hazardous materials at fixed facilities. It is an enforceable set of regulations consistent with national 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.

Section 608 of the IFC has been adopted by the State of California and Fresno County to minimize the risk of fire from stationary battery storage systems and to contain fire in the event of such an incident. Compliance with Article 480 of the Electrical Code, which identifies insulation and venting requirements for stationary storage batteries, further reduces potential fire risk.

Chapter 12 of the California Fire Code addresses the installation, maintenance, repair, retrofitting, testing, commissioning, and decommissioning of energy systems, including photovoltaic systems, fuel cell energy systems, energy storage systems, standby and emergency power, and portable generators. Section 1207 of the 2022 California Fire Code specifically addresses the design, operation and maintenance (O&M), decommissioning, and hazard response for electrical energy storage systems (ESSs). Because Fresno County has adopted the 2022 version of the California Fire Code, the County has enforcement authority for the California Fire Code for projects under its jurisdiction. Section 1207 requires ESSs to meet Underwriters Laboratories (UL) standard UL 9540; this standard pertains to fire and explosion safety concerns associated with ESSs, including the safety of the storage component during operation, fire detection, and fire mitigation effectiveness in enclosed areas. For ESSs connected to a utility grid, like the Rosemary Project, the UL 9540 standard would also extend to the equipment used to make the connection.

Fresno County would require full compliance with the California Fire Code and all applicable standards for final design and implementation of the Rosemary Project and the PG&E Project.

California Public Utilities Commission General Order 95

CPUC General Order 95 applies to the construction and reconstruction of overhead electric service lines, including work conducted by PG&E and other investor-owned utilities (IOUs). The replacement of poles, towers, or other structures is considered reconstruction and requires adherence to all strength and clearance requirements of this order. CPUC has promulgated various rules to implement the fire safety requirements of General Order 95, including the following (CPUC 2020):

- **Rule 18A:** 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:** Requires that lines be inspected frequently and thoroughly. It also requires that lines temporarily out of service be inspected and maintained.
- **Rule 35:** 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:** Establishes minimum vertical, horizontal, and radial clearances of wires from other wires.

California Public Utilities Commission 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 (which inspection is 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 this General Order must submit an annual report of its inspections for the previous year under penalty of perjury (CPUC 2013).

California Public Utilities Commission General Order 166

General Order 166 Standard 1.E requires IOUs to develop a fire prevention plan, which describes measures that the utility will implement to mitigate the threat of power line fires generally. Additionally, this standard requires that IOUs 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 IOUs 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 2017). In compliance with Standard 1.E of this General Order, PG&E adopted a fire prevention plan on September 30, 2017, and updated this plan in 2019.

California Senate Bill 38

Senate Bill 38 was approved by the Governor in October 2024 and amended Section 761.3 of the California Public Utilities Code to address battery ESS facilities. Section 761.3(g) requires that each ESS facility in the state has an emergency response and evacuation plan that covers the premises of the battery ESS facility. It also requires the owner or operator of the facility, in developing the plan, to coordinate with local emergency management agencies, unified program agencies, and local first response agencies and to submit the plan to the county.

PG&E Company Emergency Response Plan

The PG&E Company Emergency Response Plan was updated in 2019 and aids PG&E personnel with safe, coordinated, and efficient responses to emergency incidents involving gas or electric generation, distribution, storage, and/or transmission systems (PG&E 2024). The plan applies to PG&E service territory and the personnel who work in those systems. The plan takes an all-hazards approach that applies to any natural disaster or human-caused incident (such as fires, earthquakes, storms, floods, or terrorist attacks) that threatens life and/or property or requires immediate action to protect or restore service or critical business functions to the public. The plan also describes the operational structure, including a Wildfire Safety Operations Center that operates 24 hours per day during the wildfire season.

PG&E Wildfire Mitigation Plan

The PG&E Wildfire Mitigation Plan was updated in 2024 and describes PG&E's Community Wildfire Safety Program, including its goals to reduce ignition risk, improve operational mitigations, and improve system resilience. The plan outlines strategies to aggressively reduce wildfire risk in the High Fire Threat Districts and High Fire Risk Areas through undergrounding, updating management and mitigation planning, and addressing vegetation risk more efficiently through new risk-informed initiatives (PG&E 2024).

2024 Fresno-Kings Unit Strategic Fire Plan

The CAL FIRE 2024 Strategic Fire Plan outlines 21 Operational Units. The Project site falls into the Fresno-Kings Unit, specifically within Fresno County Fire Battalion 91 and is closest to station 95, located at 25101 Morton St, Tranquility, CA.

Local

Fresno County General Plan

The Health and Safety Element of the Fresno County General Plan establishes policies and programs to protect the community from risk associated with emergency management and response, as well as fire hazards. The Fire Hazards section within the Health and Safety Element is designed to help ensure that new development is constructed to minimize potential fire hazards, minimize the risk of fire in already developed areas, and to provide public education concerning fire prevention (Fresno County 2024).

> **Goal HS-B:** To minimize the risk of loss of life, injury, and damage to property and natural resources resulting from fire hazards
>
> > ***Policy HS-A.1: Operational Area Master Emergency Service Plan*.** The County shall, through the Fresno County Operational Area Master Emergency Services Plan and the Fresno County Multi-Hazard Mitigation Plan, maintain the capability to effectively respond to emergency incidents, including maintenance of an emergency operations center.

Policy HS-A.2: Multi-Jurisdictional Hazard Mitigation Plan. In coordination with cities, special districts, and other State and Federal agencies, the County shall maintain the Fresno County Multi-Jurisdictional Hazard Mitigation Plan to identify and mitigate, to the extent feasible, natural and human-made hazards within the county.

Policy HS-A.7: Building Design. The County shall review the design of all buildings and structures in the Very High Fire Hazard Severity Zones and State Responsibility Areas to ensure they are designed and constructed to State and local regulations and standards as part of the building permit plan check process.

Policy HS-A.12: Access/Evacuation Routes. Establish minimum standards for evacuation, including in the Very High Fire Hazard Severity areas, in the Emergency Operations Plan and continuously reassess access and evacuation route capacity and put mitigation measures and improvement plans in place if needed.

Policy HS-B.1: Fire Hazards Review. 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.2: Minimize Fire Hazard Risk Design. The County shall ensure that development in high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards by increasing resistance of structures to heat, flames, and embers. The County shall review current building code standards and other applicable statutes, regulations, requirements, and guidelines regarding construction, and specifically the use and maintenance of non-flammable materials (both residential and commercial) and consider adopting amendments to Title 15 of the County Ordinance Code (Building and Construction) to implement appropriate standards. Special consideration shall be given to the use of fire-resistant construction in the underside of eaves, balconies, unenclosed roofs and floors, and other similar horizontal surfaces in areas of steep slopes.

Policy HS-B.4: Fire Risk Management. The County shall require that new discretionary development including residential subdivisions and large commercial proposals in high-fire hazard areas have fire-resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and fuel management program. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas.

Policy HS-B.5: Landscape Features. In consultation with the local fire agency and CalFire, the County shall require structures to be sited to maximize low-flammability landscape features to buffer against wildfire spread. Consultation with the local fire agency will be necessary to make this determination.

Policy HS-B.7: Fire and Emergency Vehicle Access. The County shall require new discretionary development projects to have adequate access for fire and emergency vehicles and equipment. All major subdivisions shall have a minimum of two (2) points of ingress and egress. The County shall implement feasible recommendations in AB2911 [Assembly Bill 2911] Office of the State Fire Marshall Subdivision Survey Reports, which survey subdivisions without a secondary means of egress routes for evacuation and other fire safety factors.

Policy HS-B.8: Fire Risk Management Coordination. The County shall work with local fire protection agencies, local wildfire mitigation groups, the California Department of Forestry and Fire Protection, and the U.S. Forest Service to promote the maintenance of existing fuel breaks and emergency access routes for effective fire suppression and in managing wildland fire hazards.

Policy HS-B.11: Foothill and Mountain Year-round Fire Protection. The County shall work with Cal Fire and local fire agencies to establish development requirements for year-round fire protection in foothill and mountain areas having existing or proposed population concentrations that need structural fire protection, and for agricultural land uses located in and bordering fire hazard zones.

Policy HS-B.14: Minimum Fire Flow Water Systems. The County shall require new discretionary development to have water systems that meet fire flow requirements as determined by applicable California Fire Code requirements and/or National Fire Protection Association (NFPA) standards under the authority of the Chief Fire Code Official and as referenced in County Ordinance Code. Where minimum fire flow is not available to meet these standards, alternate fire protection measures, including sprinkler systems and on-site water supply or storage, shall be identified, and may be incorporated into development if approved by the appropriate fire protection agency. The County shall require that all public water providers maintain the long-term integrity of adequate water supplies and flow to meet fire suppression needs.

Policy HS-B.15: Fire Protection. The County shall ensure that any new development will have adequate fire protection, including proximity to adequate emergency services, adequate provisions for fire flow and emergency vehicle access and fire hardened communication, including high speed internet service.

Fresno County Multi-Hazard Mitigation Plan

Fresno County, along with 17 other participating jurisdictions, developed the Fresno County Multi-Hazard Mitigation Plan to improve protection of people and property of the County during hazard events such as wildfire. The plan aims to reduce or eliminate any long-term risk to people and property from hazards such as floods, wildfires, severe weather, drought, and agricultural hazards which could have a significant impact on the County (Fresno County 2018). The Multi-Hazard Mitigation Plan recommends multiple mitigation actions to reduce the County's vulnerability to hazardous events, such as emergency plans or evacuation routes. The plan also outlines specific goals and objectives to reduce or avoid long-term vulnerabilities related to the identified hazards. The goals relevant to the analysis of wildfire are the following:

Goal 1: Provide Protection for People's Lives from Hazards

Goal 2: Improve All Communities Resilience and Capabilities to Mitigate Hazards and Reduce Exposure to Hazard-Related Losses

Goal 3: Improve Community and Agency Awareness about Hazards and Associated Vulnerabilities that Threaten Fresno County Planning Communities

Goal 4: Provide Protection for Critical Facilities, Utilities, and Services from Hazard Impacts

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 the Fresno County as the Fresno County Operational Area, and designated Fresno County as the Operational Area Lead Agency. The Fresno County Office of Emergency Services (OES) coordinates the development and maintenance of the Fresno County Operational Area Master Emergency Services Plan (Fresno County OAMESP). The OES prepared the Fresno County OAMESP to serve as a guide for emergency/disaster response 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. The plan acknowledges that the regions of relatively high wildland fire vulnerabilities are in the rural foothills and mountainous regions in the west and east areas of Fresno County (Fresno County 2017).

3.20.2 Significance Criteria

A project would result in significant impacts on 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; or

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.

3.20.3 Direct and Indirect Effects

3.20.3.1 Applicant-Proposed Measures and Standard Practices

The Rosemary Project includes certain actions (*Applicant-proposed measures*, or APMs) to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of APMs is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures*. Of them, the actions described in Section 2.5.9.2, *Erosion and Sediment Control Measures*, 2.5.9.3, *Dust Control and Valley Fever Management Plan*, and Section 2.5.9.5, *Emergency Action Plan*, could reduce potential Project impacts on wildfire.

Similarly, PG&E and its contractors implement standard measures and other best practices (*Standard Practices*) to help ensure work crew and public safety and to minimize potential impacts on environmental resources. The full list of Standard Practices is provided in Chapter 2, Section 2.6.7, *PG&E–Proposed Standard Practices and Measures*. Of them, the actions described in Section 2.6.7.2, *Wildfire Risk Management*, and Section 2.6.7.7, *Other Construction Measures and Practices*, could reduce potential Project impacts on wildfire.

3.20.3.2 Methodology

The following analysis of direct and indirect effects on wildfire is based on the considerations identified in the CEQA Guidelines Appendix G environmental checklist, listed in Section 3.20.2, *Significance Criteria*. To evaluate the potential significance of Project impacts, applicable Fresno County plans were reviewed including the County's General Plan, Multi-Hazard Mitigation Plan, and the Master Emergency Services Plan. This analysis assumes that the Project would comply with all regulatory standards governing fire safety and that those regulations would be enforced to the degree that they are currently.

3.20.3.3 Direct and Indirect Effects of the Project

Criterion a) Whether the Project would substantially impair an adopted emergency response plan or emergency evacuation plan.

Rosemary Project

Impact 3.20-1: The Rosemary Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

The Rosemary Project's proposed solar and battery ESS facilities would be consistent with all Fresno County emergency response plans and emergency evacuation plans. The Rosemary Project would be subject to the requirements of the current Fire Code and Building Code. Project plans would be reviewed by the Fresno County Fire Protection District for sufficient access design prior to the issuance of building permits. As noted in Section 2.5.9.5, *Emergency Action Plan*, 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 contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the fire department, and would include defined roles and responsibilities and training for local first responders. This would also comply with Public Utilities Code Section 761.3(g), which requires each ESS to have an emergency response and evacuation plan.

Given the rural nature of the Rosemary Project site and its location relative to existing emergency response stations, impacts on emergency response and evacuation during construction and decommissioning would be unlikely. Vehicle trips and temporary lane closures during construction could contribute to emergency-related congestion on surrounding roads. However, as described in detail in Section 3.18, *Transportation*, in the context of significance criterion d), the Rosemary Project would not result in substantial impairment of an adopted emergency response plan or emergency evacuation plan because the Project would not result in significant impacts either temporarily or long-term relating to the adequacy of emergency access. O&M activities, which would occur continuously year-round, are not expected to impair emergency access or evacuation plans. The Rosemary Project would employ approximately eight full-time employees for facility operation and approximately 16 part-time employees: neither level of employment would contribute to an excessive burden on nearby emergency response services should an emergency occur. Any O&M personnel working on the Project site would be expected to comply with all adopted plans and procedures for emergency response and evacuation. Additionally, as discussed in Section 2.5.4, *Site Security and Lighting*, controlled access gates would be maintained at the main entrance to the Rosemary Project site and access would be provided to off-site emergency response teams in the event of an after-hours emergency. As discussed in Section 3.18, *Transportation*, in the context of Impact 3.18-3, there are no planned road closures as part of the Rosemary Project's construction, O&M, or decommissioning and the Project site would be accessible, including to emergency vehicles, from West Kamm Avenue, which is the only paved public road adjacent to the Rosemary Project site. Three entrances would be available to the site; thus, site ingress and egress would not directly impede an emergency response or evacuation or substantially impair the implementation of an emergency response plan or emergency evacuation plan.

As stated in Section 2.5.3.6, *Site Access and Internal Access Roads*, if required by local first responders and emergency services authorities, lockboxes with keys would be placed next to each gate to allow access for emergency vehicles. Although no specific evacuation routes are identified in the Fresno County Multi-Hazard Mitigation Plan (Fresno County 2018), Master Emergency Service Plan (Fresno County 2017), or in the Fresno County General Plan (Fresno County 2024), such routes would be determined based on the specific geographic areas of impact in coordination with local law enforcement and emergency service responders in the event of an emergency. Evacuation routes for the Rosemary Project site and surrounding area would be identified before construction and coordinated as needed by local law enforcement and emergency service responders during an emergency. Evacuation could occur via the surrounding road network or through the Rosemary Project site via perimeter or internal roads. Section 2.5.3.6 also points out that the perimeter roads would function as fire buffers, accommodate Rosemary Project O&M activities, and facilitate on-site circulation for emergency vehicles.

As outlined in Section 3.20.1.3, *Regulatory Setting*, the Fresno County Operational Area Master Emergency Services Plan, the 2024 State Emergency Plan, and the Fresno County Multi-Hazard Mitigation Plan are not directly applicable to the Rosemary Project, but the Project would not conflict with or impair any of these plans.

For these reasons, the construction, O&M, and decommissioning of the Rosemary Project would not substantially impair or interfere with an existing emergency plan and the impact would be **less than significant**.

Mitigation: None required.

PG&E Project

Impact 3.20-2: The PG&E Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

The PG&E Project would comply with all emergency response policies, plans, and procedures. As described in Section 2.6.7.6, vehicles would be confined to established roadways and preapproved access roads, overland routes, and access areas. Access routes and temporary work areas would be limited to the minimum necessary to achieve the PG&E Project goals and are not expected to disturb any emergency response or evacuation plan. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Any road closures that must occur on private and county roads typically would not exceed a few minutes in duration and would be coordinated with the County or the landowner. As such, construction would not substantially impair an adopted emergency evacuation plan in a significant way.

The PG&E Project site is in a sparsely populated area surrounded primarily by agricultural lands; thus, it is unlikely to have a significant impact on existing emergency response or evacuation plans. On a typical workday, approximately 15–20 construction workers would be on-site. When work activities are conducted concurrently, a maximum of 30 workers could be present at various locations along the alignment at any time. This number would not constitute any excessive burden on nearby emergency response services should an emergency occur. O&M activities associated with the reconductored electrical line would not change from PG&E's current practices; thus, O&M would have no added impact on emergency response

or on an emergency evacuation plan. Similar to the Rosemary Project, the PG&E Project would not conflict with any adopted plans and procedures addressing emergency response and evacuation, including the 2024 State Emergency Plan, the Fresno County Operational Area Master Emergency Services Plan, and the Fresno County Multi-Hazard Mitigation Plan. The PG&E Project would also comply with the PG&E Emergency Response Plan and the California Emergency Response Plan, as discussed in detail in Section 3.20.1.3, *Regulatory Setting*. For these reasons, the construction and O&M of the PG&E Project would not substantially impair or interfere with an existing emergency plan and the impact would be **less than significant**.

Mitigation: None required.

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.

Rosemary Project

Impact 3.20-3: The Rosemary 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*)

The Rosemary Project site is located in a sparsely populated region of the San Joaquin Valley, where wildfire risk is generally considered low because of the flat landscape and sparse vegetation. Prevailing winds vary by season but generally blow in a northwesterly direction relative to the location of population centers. Although the region's prevailing winds can reach high speeds, there are low vegetative fuel levels and therefore few fire ignition sources as well as no forested areas in the Rosemary Project vicinity. The site does not contain any slopes or fuel loads that could exacerbate fire risk. The Rosemary Project site is not located in a FHSZ nor is it mapped as a Very High FHSZ. In the absence of the other factors described, prevailing winds alone would not create high fire risk conditions that would expose on-site workers or the surrounding communities to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. As described in Section 3.20.1.2, *Environmental Setting*, according to CAL FIRE, CPUC, and Fresno County, the Rosemary Project site is not identified as an area of high fire risk (CAL FIRE 2023; CPUC 2017; Fresno County 2018).

The risk of the Rosemary Project igniting a fire is low. If installed properly, photovoltaic (PV) solar panels do not cause fires and most PV modules are tested by Underwriters Laboratories, which subjects them to the rigors of everyday use before certification (Gromicko 2023). The project's solar panels would conform to testing standards set by the International Electrotechnical Commission and Underwriters Laboratory 173, described in more detail in Impact 3.10-3. Electric arcs and DC connectors or inverter malfunctions can pose a risk for fire; however, these incidents can be prevented by regular inspections of electrical components for damage as well as clear, systematic labeling of system components to help ensure that technicians and firefighters can readily identify key system elements (Trabish 2011).

As discussed in Section 3.10, *Hazards and Hazardous Materials*, in the context of Impact 3.10-4, lithium-ion, sodium-sulfur, and nickel hydride, found in ESSs, can produce significant amounts of flammable gases with potential risk of deflagration and fire when compromised. The Rosemary Project's ESS

modules could use any of a variety of commercially available battery technologies (lithium ion, sodium sulfur, sodium hydride, or nickel hydride) and would be enclosed by modular metal structures. As discussed in Impact 3.10-4, ESSs are equipped with several advanced containment and safety features to help ensure reliability and safety, including robust thermal management solutions to prevent overheating and thermal runaway, fire safety systems (often including smoke, heat, or gas detection systems that automatically shut down the system and notify the fire department), and advanced battery management systems that continuously monitor the strength and performance of each cell, providing real-time diagnostics and ensuring cells operate within safe parameters. Enclosure units are built to be fire-resistant and are often designed to safely vent gases in the case of cell failure. The battery ESS component of the Rosemary Project would comply with U.S. Occupational Safety and Health Administration and California Fire Code requirements such as inclusion of heating, ventilation, air conditioning, fire protection systems, and spill response supplies. In addition, for the Rosemary Project, an emergency response plan would be completed and implemented 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]; Public Utilities Code Section 761.3). See Section 2.5.9.6 *Emergency Action Plan*, in Chapter 2, *Project Description*, for additional details. 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. These features, coupled with independently enforceable safety protocols and regular maintenance, contribute to a decreased risk of ignition at the ESS and high safety standards for today's ESSs.

As stated in Section 2.5.6.3, *Construction Schedule,* construction of Rosemary 1, 2, and 3 and the Rosemary Shared Facilities could occur concurrently or sequentially, with the total construction duration to extend no longer than 18 months. During this time, the peak daily workforce would be up to approximately 204 workers if the construction occurred concurrently. On average, fewer workers than this would be present on-site. Although the use of vehicles and equipment during construction could result in an ignition, the risk would be low given the short construction duration, flat topography, and lack of vegetative fuels. Furthermore, regularly inspected, properly maintained equipment would not significantly exacerbate the risk of ignition. During decommissioning, the risk of ignition from vehicle and equipment use would be similar to that of the construction phase. Once operational, the Rosemary Project would include solar arrays, an ESS, and other electrical equipment that could be susceptible to fire. However, each electrical component used on-site would be designed and operated in compliance with all applicable requirements including the 2022 California Fire Code, which has been adopted by the State of California and Fresno County, to minimize the risk of fire from stationary battery ESSs and contain fire in the event of an incident. Typical O&M activities may include oversight of solar generation, storage, and transmission facilities. The Rosemary Project would employ approximately eight full-time employees for facility operation and approximately 16 part-time employees for vegetation management, panel washing, contract maintenance, and other similar tasks. The average number of O&M workers at the Rosemary Project site would be 10 people per day, with a maximum number of 16 people per day. Although on-site workers could be exposed to pollutant concentrations if a fire were to occur, the Project-specific emergency response plan would be used and workers would safely evacuate from the site. Coupled with the fact that the Rosemary Project site is at low risk for wildfire, the risk of the construction, O&M, and decommissioning of the Rosemary Project exacerbating wildfire risks or prompting the uncontrolled spread of a wildfire is low.

Because of the Rosemary Project site's flat topography, lack of vegetative fuels, northwesterly direction of prevailing winds relative to the location of population centers, and adherence to regulations specific to battery ESS fire risk mitigation, the Rosemary Project is not likely to lead to the exacerbation of wildfire risk or the spread of a wildfire. Therefore, the Rosemary Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose its occupants to pollutant concentrations from wildfire, or the uncontrolled spread of a wildfire, and impacts under this criterion would be **less than significant**.

Mitigation: None required.

PG&E Project

Impact 3.20-4: The PG&E 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*)

The PG&E Project site is not in a populated area and is located on flat agricultural land that is sparsely vegetated and currently used for energy-related purposes, including the existing Helm–Crescent 70 kV transmission line and existing Helm Substation and Crescent Switching Station. As discussed in Section 3.20.1.2, *Environmental Setting*, and 3.20.1.3, *Regulatory Setting,* according to CAL FIRE, CPUC, and Fresno County, the PG&E Project site is not identified as an area of high fire risk (CAL FIRE 2023; CPUC 2017; Fresno County 2018). The nearest FHSZ is approximately 12 miles southwest of the PG&E Project.

Reconductoring power lines would reduce fire risks by replacing old, potentially sagging conductors with modern, higher-capacity conductors that are less prone to sagging. The predominant fire hazard from construction would involve the use of vehicles and equipment, which could ignite dry vegetation and cause a fire, particularly during the drier, warmer months. Construction activities that could result in sparks, such as welding or grading, have a greater likelihood of resulting in ignition. Therefore, construction could temporarily exacerbate the risk of wildfire, depending on the time of year, as seasonality can impact climate conditions, prevailing winds, and vegetation/fuels, and the location of construction activities. Construction activities would take approximately 18 months to complete, with approximately 15-20 construction workers on-site during a typical workday. A maximum of 30 workers could be present at various points along the alignment during the construction period. If construction were to cause an ignition, wildfire could result in smoke and air pollutants that could result in poor air quality for construction workers and 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. Per Section 2.6.7.7, *Other Construction Measures and Practices*, all equipment also would be properly maintained for the duration of construction, further limiting the risk of ignition. Therefore, although the use of vehicles and equipment during construction 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, distance to population centers, and regular and proper maintenance of construction equipment.

Additionally, PG&E would continue to implement precautionary measures as part of its operation and maintenance of the existing Helm–Crescent 70 kV electric transmission line and existing substations that are intended to reduce the risk of wildfires consistent with the company's Community Wildfire Safety Program; this includes the use of technology to predict, monitor, and respond to wildfires and severe

weather conditions, the use of appropriate materials (i.e., robust poles and covered powerlines), and vegetation management (PG&E 2024). According to Section 2.6.7.2, *Wildfire Risk Management*, PG&E will also continue to follow its standard fire risk management procedures, which includes safe work practices, work permit programs, training, and fire response. Construction personnel would also be directed to park away from dry vegetation. During fire season, defined in Section 3.20.1.2, all motorized equipment driving off paved or maintained gravel and dirt roads will have federal- or state-approved spark arrestors. In addition, all off-road vehicles would be equipped with a shovel and a backpack pump filled with water, and all fuel trucks would carry a large fire extinguisher with a minimum rating of 40 B:C. According to Section 2.6.7.7, *Other Construction Measures and Practices*, open fires (such as barbecues) would be prohibited at work sites, and smoking would be permitted only in designated smoking areas or within the cabs of vehicles or equipment.

Given the inherent potential for ignition risk associated with power lines, PG&E's Fire Prevention Plan would be applied to the PG&E transmission lines, 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, Pro-Active Responses to Fire Incidents, enhancements to PG&E's Storm Outage Prediction Model, the Wildfire Reclosing Disable Program, and the implementation of the PSPS program (PG&E 2019). The PG&E 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 of the power lines. Impacts related to wildland fire from the added PG&E infrastructure would be **less than significant**.

Mitigation: None required.

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 that may result in temporary or ongoing impacts to the environment.

Rosemary Project

Impact 3.20-5: 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 Rosemary Project would not include the installation or maintenance of fuel breaks or emergency water sources, but it would include the installation and/or maintenance of power lines and other electrical utilities that could exacerbate fire risks. The proposed power lines and electrical utility infrastructure 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 Rosemary Project's DC collector system would be underground and, while the AC collector system and gen-tie may be installed aboveground, they would be built and maintained in accordance with Section 2.5.9 *Applicant Proposed Measures*. As described in Section 2.5.2, *Battery Energy Storage System*, in accordance with relevant safety standards, the ESS containers would be equipped with temperature control (heating,

ventilating, and air conditioning [HVAC]) equipment and appropriate fire safety systems. 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. See **Appendix K2**, *Consistency with Fresno County's Solar Facility Guidelines*, for additional details about the Solar Facility Guidelines. Additionally, Project access roads would assist with fire prevention and suppression and therefore would not exacerbate fire risk. Construction and maintenance crews would have emergency water sources on-site in order to respond to fires, and the Rosemary Project would include water tanks onsite (up to approximately 50,000 gallons) that could be used for fire suppression. For these reasons, the Project would not require the installation or maintenance of infrastructure that has not been considered in the analysis of the Project or that would exacerbate fire risk, and impacts under criterion c) would be **less than significant.**

Mitigation: None required.

PG&E Project

Impact 3.20-6: The PG&E 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 PG&E Project does involve the installation or maintenance of power lines and other utilities, including reconductoring of the existing Helm–Crescent 70 kV transmission line to enhance the safety and reliability of electrical service to PG&E customers. For the PG&E Project, PG&E would also modify existing infrastructure within the Helm Substation and the Crescent Switching Station. However, this infrastructure is considered part of the PG&E Project and the environmental impacts that could result from its execution are analyzed throughout this document on a resource-by-resource basis. As discussed in Impact 3.20-4, above, the PG&E Project would be subject to extensive regulations and PG&E's best management practices designed to minimize the risk of wildfire during construction and operation. Therefore, the PG&E Project would not require the installation or maintenance of infrastructure that has not been considered in the analysis of the Project or that would exacerbate fire risk. Therefore, impacts under this criterion would be **less than significant**.

Mitigation: None required.

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.

Rosemary Project

The Rosemary 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*)

As discussed in Section 2.3, *Existing Land Uses*, the Project site is not located within a populated area nor does it include any housing. The surrounding area is widely used for agricultural purposes or renewable

energy generation. Additionally, the Rosemary Project does not include any housing component and, therefore, would not expose people to increased risks associated with landslides, flooding, or post-fire slop instability as a result of locating housing near such risks.

As discussed above, the Rosemary Project would have a less-than-significant impact on wildfire risk due to the site's flat topography, lack of vegetative fuels, northwesterly direction of prevailing winds relative to the location of population centers, and adherence to regulations specific to battery ESS fire risk mitigation.

As described in Section 3.11*, Hydrology and Water Quality*, the Rosemary Project would not substantially alter or disrupt existing drainage patterns, cause erosion, or create surface runoff that would contribute to on- or off-site flooding, impact stormwater drainage capacity, or impede flood flows. If required, the Rosemary Project would also utilize up to six stormwater protection or detention facilities. Construction would involve grading and other soil-disturbing activities that could alter site drainage; however, the solar and ESS facilities would be on flat land and any soil-disturbing activities would be consistent with Fresno County grading and erosion control permit requirements. 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, the Rosemary Project site has little risk for flooding, landslides, or post-fire slope instability. For these reasons, **no impact** would occur under this criterion during construction, O&M, or decommissioning of the Rosemary Project.

Mitigation: None required.

PG&E Project

The PG&E 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 PG&E Project does not include any housing nor is it located in a populated area. Similar to the Rosemary Project site, the PG&E Project site is directly surrounded by agricultural land. As discussed above, the PG&E Project would be subject to extensive regulations and PG&E's best management practices designed to minimize the risk of wildfire during construction and operation. As described in Section 3.11*, Hydrology and Water Quality*, the PG&E Project would not substantially alter or disrupt existing drainage patterns, cause erosion, or create surface runoff that would contribute to on- or off-site flooding, impact stormwater drainage capacity, or impede flood flows. Mowing or minor grubbing is the only site preparation expected to be necessary for most of the reconductoring work areas, with limited leveling and filling as needed. Work within the existing substation facilities would require little, if any, ground disturbance. Because the PG&E Project would have a low potential to significantly exacerbate wildfire risk, it also would not pose a substantial risk of causing post-fire slope instability. Additionally, the Project site is located on flat land, rather than slopes that could contribute to the occurrence of landslides or flooding. Therefore, the PG&E Project would have **no impact** regarding its potential to exacerbate the risk of flooding and mudslides as a result of post-fire slope instability.

Mitigation: None required.

3.20.3.4 Summary of Project Impact Conclusions

Based on the analysis above, **Table 3.20-1**, *Summary of Project Impacts on Wildfire*, summarizes the impacts of the Project as a whole on wildfire.

TABLE 3.20-1
SUMMARY OF PROJECT IMPACTS ON WILDFIRE

Significance Criteria: Would the project:	Significant and Unavoidable	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

3.20.4 Cumulative Effects

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 effects related to wildfire could occur if the incremental impacts of the Project combined with the incremental impacts of one or more of the cumulative projects.

The geographic context of the cumulative effects analysis includes the Project site and the areas surrounding it, which primarily consist of agricultural land uses and operating solar projects. The timeframe during which the Rosemary Project could cause or contribute to cumulative effects includes the time from when on-site activities commence for site preparation and construction to when on-site activities cease following decommissioning. For the PG&E Project, the timeframe during which the Project could cause or contribute to cumulative effects would commence with the initiation of on-site work and would continue for so long as relevant project components (such as the line, switching station and substation) remain in use.

Criterion a) Whether the Project would substantially impair an adopted emergency response plan or emergency evacuation plan.

Impact 3.20-1c: The Rosemary Project would not cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

As discussed in Impact 3.20-1, there is no adopted emergency response plan or emergency evacuation plan that applies in the study area; thus, any such routes would be determined by responders based on the specific geographic areas impacted by an emergency. The Rosemary Project's less-than-significant impact could combine with the incremental impacts of other projects identified in Section 3.1.3, *Cumulative Effects Approach*, and could cause traffic congestion of the streets that would be used for Rosemary Project activities. See Section 3.18, *Transportation*, for more information on potential traffic and transportation implications. Other projects in the vicinity, such as the San Joaquin Solar Project, Stroud Solar Station, and Scarlet Solar Project, could contribute vehicles and incremental hazards to the same general road network as the Rosemary Project. However, the San Joaquin Solar Project is the only project in the cumulative scenario that is within 1 mile of the Rosemary Project site; the Stroud Solar Station is 2.5 miles east of the Rosemary Project, while the Scarlet Solar Project would be more than 9 miles northwest of the Rosemary Project. Thus, the local network of paved and unpaved roads, as well as the undeveloped, flat topography of the site, provides multiple options for emergency and other vehicles to get to and past the Rosemary Project site in the event an emergency response or evacuation is necessary. Therefore, the Rosemary Project's incremental, less-than-significant impact when combined with the incremental impacts of other cumulative projects would not cause or contribute to a significant cumulative effect, and the Rosemary Project would have a **less than significant** cumulative effect regarding criterion a).

Mitigation: None required.

Impact 3.20-2c: The PG&E Project would not cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)

The PG&E Project, when considered with other projects in the region, would not result in the obstruction of any adopted emergency response or evacuation plans. No specific evacuation routes are outlined in the Fresno County Multi-Hazard Mitigation Plan, the Fresno Kings Unit Fire Plan, or the Fresno County General Plan; thus, evacuation routes for this area would be identified and coordinated as needed by local law enforcement and emergency service responders during an emergency. The PG&E Project would require little traffic during construction and even less during O&M. The local network of paved and unpaved roads provides multiple options for emergency and other vehicles to get to and past the PG&E Project site in the event an emergency response or evacuation is necessary. The PG&E Project would have a **less than significant** cumulative effect as it would not cause or contribute to any cumulative effect due to interference with adopted emergency response or evacuation plans.

Mitigation: None required.

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.

Impact 3.20-3c: The Rosemary Project would not cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors. (*Less-than-Significant Impact*)

As discussed in Impact 3.20-3, the Rosemary Project would be situated on flat terrain in a sparsely populated area with low vegetative fuel levels. The proposed site is not in an area identified as a fire hazard severity zone or an area of high fire risk. The proposed facilities would be designed and constructed in a manner adhering to independently enforceable requirements established to minimize risk to human health, safety, and the environment. Other projects identified in Section 3.1.3 that could contribute to ignition sources include the solar projects referred to in Impact 3.20-1c, power lines, and other energy infrastructure, homes, and operating vehicles in the study area. Compliance with applicable laws and regulations, including those outlined in Section 3.20.1.3, would manage ignition sources. Because of the existing flat topography, the northwesterly direction of prevailing winds relative to potential ignition sources, and other factors, the combination of Rosemary Project impacts with the incremental impacts of other projects in the cumulative scenario would not cause or contribute to a significant cumulative effect relating to the exacerbation of wildfire risk and any associated release of pollutants The impact would be **less than significant**.

Mitigation: None required.

Impact 3.20-4c: The PG&E Project would not cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors. (*Less-than-Significant Impact*)

Similar to the Rosemary Project, the PG&E Project would be located on flat topography in a sparsely populated region of the County. In addition, reconductoring typically lowers fire risks associated with older, potentially sagging power lines. Given the topography of the area, the predominant fire hazard can be reasonably assumed to be construction-related ignition risks. This would involve the use of vehicles and equipment, which could ignite dry vegetation and result in a fire. However, these construction-related activities would be subject to existing regulations and PG&E best practices that would minimize the potential for ignition, which also would apply to each cumulative project. Thus, the PG&E Project's incremental contribution to cumulative effects on wildfire risk to the region would be less than significant, due to its minor incremental increase in fire risk, its location in an area that is sparsely populated, and its location on a site that is sparsely vegetated and 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, including the 2022 California Fire Code, which requires battery ESSs and the equipment used for grid connection to adhere to Underwriters Laboratories standard UL 9540. The PG&E Project would comply with the California Fire Code and all applicable standards for final design and implementation of the PG&E Project. Thus, when considered with other land uses in the region, the addition of the PG&E Project would not contribute to a greater risk of wildfire, and cumulative effects would be **less than significant**.

Mitigation: None required.

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 that may result in temporary or ongoing impacts to the environment.

Impact 3.20-5c: The Rosemary Project would not cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment. (*Less-than-Significant Impact*)

As discussed, the study area is not conducive to the rapid spread of uncontrolled wildfire. While existing or proposed or reasonably foreseeable future land uses could result in cumulative ignition sources, the construction and O&M of solar facilities (including photovoltaic solar energy generation, battery ESS, and related power lines for the projects outlined in Impact 3.20-1c that are either operating, approved, or under consideration in the cumulative scenario) do not present a significant risk with respect to ignition sources. The commitment and obligation to maintain buffer zones compliant with state and local regulations, as well as the upholding of emergency response plans and procedures, would help ensure that the Rosemary Project's incremental contribution to potential significant wildfire impacts would not be cumulatively considerable and thus would be less than significant. Therefore, the Rosemary Project's cumulative effect with respect to criterion c) would be **less than significant**.

Mitigation: None required.

Impact 3.20-6c: The PG&E Project would not cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment. (*Less-than-Significant Impact*)

As discussed in Impact 3.20-5c, the study area is not conducive to the rapid spread of uncontrolled wildfire. The PG&E Project would be subject to extensive state regulations and the PG&E Company Emergency Response Plan, which aids PG&E personnel with safe, coordinated, and efficient responses to emergency incidents involving its substations and transmission systems. Upon completion of construction, PG&E would continue to implement precautionary measures as part of its O&M of the existing Helm–Crescent 70 kV electric transmission line that are intended to reduce the risk of wildfires consistent with the company's Community Wildfire Safety Program. The upholding of emergency response plans and procedures would help ensure that the PG&E Project's incremental contribution to potentially significant wildfire impacts would not be cumulatively considerable and thus would be **less than significant**.

Mitigation: None required.

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.

Both the Rosemary Project and the PG&E Project would cause no impact due to the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, due to runoff, post-fire slope instability, or drainage changes. Therefore, the Rosemary Project and the PG&E Project would not cause or contribute to any significant cumulative effect relating to criterion d) and there would be **no impact**. (*No Impact*)

Mitigation: None required.

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CHAPTER 4
Alternatives

CEQA requires a lead agency to 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 an EIR to 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 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.

CEQA Guidelines Section 15083(a) states that scoping can be helpful to agencies in identifying alternatives to be analyzed in an EIR. The County received no comments during the public scoping period for this Project regarding alternatives (**Appendix A**, *Scoping Report*).

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:

> *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.

4.1.1 Screening Factor 1: Project Objectives

Screening factor one is whether a 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 objectives for this Project are identified in Section 2.4, *Project Objectives*, and are repeated below for ease in reference:

1. Construct a facility that generates up to approximately 140 MWac of electricity and includes energy storage capacity of up to approximately 140 MWac to assist the State of California in achieving the Renewable Portfolio Standard and Senate Bill 350 greenhouse gas reduction goals.[1]
2. Produce and transmit electricity at a competitive cost and develop an economically viable project that will support commercially available financing.
3. Locate the generating facility in a rural portion of Fresno County in proximity to an available connection to the existing electrical distribution system.
4. Create jobs and tax revenues for Fresno County.
5. Provide safe, reliable utility service to the Fresno area community.
6. Minimize environmental impacts by utilizing land that is disturbed or previously degraded; using existing electrical distribution and transmission facilities, right-of-way, roads, and other existing infrastructure where practicable; minimizing water use; reducing greenhouse gas emissions; and using technology that is available, proven, efficient, easily maintained, recyclable, and environmentally sound.

4.1.2 Screening Factor 2: Potential Feasibility

Screening factor two is 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, 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 this EIR (Public Resources Code Section 21081[a][3]).

[1] California's Renewable Portfolio Standard program was established in 2002 with an initial requirement that 20 percent of retail electricity sales be served by renewable resources by 2017. Senate Bill 350 (de León, 2015) accelerated the program by requiring 50 percent of retail electricity sales to be served by renewable resources by 2030.

4.1.3 Screening Factor 3: Avoidance or Substantial Reduction of Significant Impacts of the Project

Screening factor three is whether a potential alternative would be able to avoid or substantially lessen any of the potentially significant impacts of the Project. As analyzed in Chapter 3, *Environmental Analysis*, the Project would cause no significant unavoidable impact to any of the resource considerations but could, unless mitigated, cause potential significant impacts on the following resources:

a. **Air Quality**: Construction and decommissioning of the Rosemary Project would generate fugitive dust emissions that could expose sensitive receptors to pollutant concentrations and risk of contracting Valley Fever.

b. **Biological Resources**: The Rosemary Project could have a potential significant adverse impact on biological resources, including burrowing owl, nesting birds, and wildlife movement corridors.

c. **Cultural Resources and Tribal Cultural Resources**: Ground disturbing activities for either the Rosemary Project or the PG&E Reconductoring 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), archaeological resource that also is tribal cultural resource, or previously unidentified human remains interred outside a dedicated cemetery.

d. **Paleontological Resources**: In the event of an unanticipated fossil discovery, either the Rosemary Project or the PG&E Reconductoring Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.1.4 Screening Factor 4: Remote or Speculative

Screening factor four is whether the implementation of a potential alternative is remote or speculative (California Code of Regulations [Cal. Code Regs.] Title 14, Section 15126.6[f][2]). A lead agency may conclude that an alternative is remote or speculative if significant changes in governmental policy or legislation would be needed to carry it out or if it is unlikely as a practical matter to be carried out within the reasonable future or is contingent on the occurrence of uncertain future events. In *Bowman v. City of Petaluma* (1986) 185 Cal.App.3d 1065, for example, the Court upheld a lead agency's conclusion that added delay made an alternative infeasible on the basis of its resulting in "years of additional delay while [it] was designed, designs were approved, rights of way were secured by purchase or eminent domain, an independent environmental review was pursued to completion, and [it] was finally built."). 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 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 alternatives that failed the screening process are provided below.

4.2.1 Alternative Sites

4.2.1.1 Other Points of Interconnection

In California, large energy generating facilities like the proposed Rosemary Project require a Large Generator Interconnection Agreement (LGIA) to be reached between the project owner, the transmission owner, and the California Independent System Operator (CAISO). An LGIA would govern the interconnection of the facility to the transmission system. The interconnection process involves an interconnection request and study, transmission planning, contract development, and queue management; and it can take years to finalize.

The executed LGIA for the Rosemary Project considers interconnection exclusively at the studied Point of Interconnection (POI), PG&E's existing Crescent Switching Station (CAISO 2025). The LGIA is based on the System Impact Study that is specific to the Rosemary POI. Because the Project must have an LGIA and because the LGIA in place contemplates the specified interconnection location, it would not be feasible to change the point of interconnection from the Crescent Switching Station. Additionally, the Project has been proposed adjacent to the Crescent Switching Station to minimize energy losses between the generating facility and PG&E's regional grid, thereby facilitating energy efficiency, and to limit the need for extensive transmission infrastructure which could result in additional environmental impacts. For these reasons, alternative sites that would require a new interconnection position were not considered feasible alternatives to the Project for the purposes of CEQA.

4.2.2 Alternative Renewable Energy Generation Technology

The County initially considered whether an alternative renewable energy generation technology (specifically a wind energy project alternative) could satisfy the screening criteria. A wind energy alternative would involve the use of wind energy as an alternative to the development of a solar site. Wind energy provides the following benefits: It is a renewable and infinite resource, causes no greenhouse gas emissions one installation is complete, and would not require significant water usage associated with other sources of energy (such as coal and nuclear). Compared with non-renewable energy sources, the environmental effects of wind power are relatively minor.

A wind energy project alternative would consist of a group of three-blade wind turbine units that are pointed into the wind by computer-controlled motors to produce electrical power. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system.

A wind energy project alternative would satisfy most of the basic project objectives. However, it has not been carried forward for more detailed review for multiple reasons. First, a wind energy project would not be potentially feasible on the proposed site. Commercial wind projects typically require an annual average wind speed of at least 7 m/s at 100m height for a site to be considered commercially viable. The wind resource at a 100m height on the proposed site is less than 6 m/s (NREL 2020), which makes this site not commercially viable. Second, a wind energy project alternative was not carried forward because it would not avoid or substantially reduce the potential significant impacts of the Project as proposed and may result in additional environmental impacts. For wind turbines to produce an equivalent amount of power

as the Project as proposed (i.e., 140 MW), the alternative would require more space than what the Project site currently accommodates and, consequently, the Project site would need to be expanded. This could result in greater impacts to unknown subsurface cultural resources, tribal cultural resources, and/or paleontological resources. Wind turbines would also have the potential to have a greater adverse effect on avian species such as birds and bats than the Project as proposed. Construction of a wind farm also would not substantially decrease short-term construction-related air emissions. A wind energy alternative also could result in additional/greater aesthetic impacts than the Project because wind turbines would be much taller than solar panels, would be visible from greater distances, and could require Federal Aviation Administration lighting if constructed at 200 feet or taller. A wind energy alternative also would generate long-term noise impacts from rotating turbine blades that could adversely affect sensitive receptors. Thus, this alternative was eliminated from further consideration.

4.2.3 Alternative Energy Storage Technologies

The battery energy storage system (ESS) modules proposed for the Rosemary Project could be any of a variety of commercially available technologies, including lithium-ion, sodium sulfur, sodium hydride, or nickel hydride. As analyzed in Section 3.10, *Hazards and Hazardous Materials*, battery fires are rare but do occur. Large lithium-ion battery ESS facility fires have occurred in California in the last five years, including separate incidents at Moss Landing facilities in 2025 and 2022 and the two battery ESS facility fires that occurred in San Diego County in 2024. In light of these events, the County considered whether a different battery ESS module technology could further reduce the risk of fire at the proposed Rosemary Project site. Two alternative energy storage technologies may have the potential to further reduce such hazards: a rechargeable iron-air battery system or a sand battery storage system. Both are discussed below; however, neither passes screening.

4.2.3.1 Rechargeable Iron-Air Battery

A rechargeable iron-air battery storage system uses iron and air as the primary reactants. Such a system operates through a reversible oxidation-reduction reaction involving iron and oxygen in two main phases, discharge and charging. In the discharge phase, the battery discharges when iron metal reacts with oxygen from the air to form iron oxide. This reaction releases electrons, which generate electrical current that can be used to power devices or feed the grid. In the charging phase, the battery charges when an external power source, such as a solar installation, reverse the reaction by converting iron oxide back into metallic iron. Oxygen is released back into the air, and the iron is restored to its original state, ready for the next cycle. Iron-air battery systems can store large amounts of energy using abundant and inexpensive materials and can provide up to 100 hours of storage, however, this long storage duration is matched by similarly long charging times, making them less efficient for grid-scale storage. Additional drawbacks include their reliance on iron, which can lead to corrosion over time, as well as challenges related to the management of impurities in the air like moisture, carbon dioxide, and pollutants that can affect performance when pulled in during the discharge phase. Furthermore, iron-air battery systems require larger and heavier storage units to deliver the same amount of power, resulting in an overall project footprint several times the size of a comparable lithium-ion system.

Although a Rechargeable Iron-Air Battery Alternative would meet most of the basic objectives of the Project as proposed (satisfying screening factor 1), it fails to meet the remaining screening criteria. This potential alternative fails to meet screening factor 2 because it is not potentially feasible, meaning it

would not be capable of being accomplished successfully in a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Commercial deployment of iron-air batteries is still in the early stages and substantial permitting and other hurdles could reasonably be expected to unreasonably delay implementation at the scale proposed for this project. This potential alternative fails to meet screening factor 3: none of the potential significant impacts of the Project as proposed is specifically attributable to the proposed battery ESS and, rather than decreasing the significant surface disturbance-related impacts of the Project, a proposed Rechargeable Iron-Air Battery Alternative would tend to increase them as a result of needing a larger development footprint. Finally, a Rechargeable Iron-Air Battery Alternative also has not been carried forward for more detailed review because insufficient evidence of their safety and efficacy exists, making this alternative too speculative to consider.

4.2.3.2 Sand

A sand battery storage system uses sand or sand-like materials to store and release energy in the form of heat. Unlike electrochemical batteries such as lithium-ion or iron-air, sand batteries store energy as thermal energy. During the charging phase, excess electricity is used to heat sand to extremely high temperatures, which then acts as a heat reservoir, storing energy efficiently over long periods with minimal losses due to sand's high thermal insulation properties. During discharge, the stored thermal energy is extracted and used to generate hot air or steam, and then transferred or converted back into electricity via steam turbines. Sand batteries currently come in two sizes: 2 MW and 10 MW. At present, the only commercial sand battery installation is currently in Kankaanpaa, Finland.

Initial evidence indicates that a sand battery system could present a low-cost, long-duration, highly efficient alternative for smaller deployments once the technology matures. However, the technology is unproven at the scale that would be needed to offer a true alternative to the Project as proposed. A Sand Battery Alternative has not been carried forward for more detailed review because it fails to meet screening factor 2 because it is not potentially feasible: Commercial deployment of sand battery systems is still an early stage and substantial permitting and other hurdles could reasonably be expected to unreasonably delay implementation at the scale proposed for this project. This potential alternative fails to meet screening factor 3: a Sand Battery Alternative would not avoid or substantially reduce any of the potential significant impacts of the Project as proposed. Finally, a Sand Battery Alternative also has not been carried forward for more detailed review because its implementation is remote and 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 on or about November 8, 2024, when the Notice of Preparation was issued for this Draft EIR, 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.

Under the No Project Alternative, the Rosemary Project site would continue to be used for dry-farmed agriculture and/or left fallow. It is designated "Agriculture" as shown on Fresno County General Plan Countywide Land Use Diagram Figure LU-1a (Fresno County 2024) and is zoned AE-20 (Exclusive

Agricultural, 20-acre minimum parcel size) (Fresno County 2025). If the Rosemary Project were not approved, then other uses consistent with the AE-20 zoning designation could be made on one or more of the parcels that comprise the Rosemary Project site. Pursuant to Fresno County Ordinance Code Sections 808.2.010 and 834.4.050(B)(1)(a), uses that are "necessary and an integral part of an agricultural operation" are allowed by right without a permit, such as those relating to livestock and poultry, apiaries and honey extraction plants, and kennels. No such competing proposals for site use are before the County. Accordingly, rather than speculate 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 use is continued as it exists under pre-Project conditions.

Under a no-development scenario, the Rosemary Project site would continue to be intermittently dry farmed for grain or forage crops or lay fallow and other conditions of the existing environmental setting would be maintained. Changes to that setting would not occur, including alteration of the landscape (visual resources, wildlife habitat, and land use/agriculture) and ground-disturbance and related potential impacts on presently unknown cultural or tribal cultural resources, as yet undiscovered paleontological resources, and existing wildlife habitat. Benefits relating to renewable energy generation and energy storage (such as reduced greenhouse gas emissions by reducing the reliance on fossil fuel power plants and increased regional power grid stability) would not be realized from the proposed development of the Rosemary Project site.

CAISO has reviewed PG&E's proposed Helm–Crescent Switching Station 70 kV line reconductoring project. The project involves reconductoring approximately 4.77 miles of the existing 70 kV line with 1113 AAC conductor and upgrading any limiting substation equipment to enhance capacity and reliability. In its 2024–2025 Transmission Planning Process, CAISO recommended using a conductor capable of handling at least 1,126 amps under both summer normal and emergency conditions. It is expected that this upgrade would address identified thermal overloads and improve the reliability of the local transmission network. The Helm–Crescent line reconductoring is part of broader efforts to reinforce the greater Fresno area's transmission infrastructure, ensuring it meets current and future demand while maintaining system reliability (CAISO 2025).

Under the No Project Alternative, the PG&E Reconductoring Project would not proceed as analyzed in this EIR; however, it is very likely that reconductoring of the proposed approximately 5-mile segment of the Helm–Crescent 70 kV electric transmission line would proceed pursuant to a different permitting process. Not reconductoring the Helm–Crescent 70 kV electric transmission line could hinder grid capacity expansion to meet growing energy demands of data centers (particularly those supporting artificial intelligence), cloud computing, cryptocurrency mining, and the increasing electrification of transportation and other sectors or the economy. It also could reduce grid reliability, since aging infrastructure can lead to rolling blackouts and other power outages; delay clean energy deployment by limiting interconnection opportunities; and increase costs for consumers to achieve comparable transmission capacity, since reconductoring allows for faster, more cost-effective increases in transmission capacity compared to building new lines. CAISO considers the PG&E Reconductoring Project to be a "deliverability" upgrade (CAISO 2024), meaning that, once completed, it would relieve either a "local reliability constraint" or an "area deliverability constraint" (CAISO 2019). Alleviating existing constraints would need to occur whether the potential impacts of reconductoring are analyzed by the California Public Utilities Commission (CPUC) pursuant to its regulation and oversight of publicly

owned utilities like PG&E, or whether CEQA analysis occurs as part of a larger project subject to another agency's EIR. For purposes of this analysis, conclusions about the potential significance of the environmental impacts of the proposed reconductoring effort are expected to be the same regardless of which lead agency conducts the analysis.

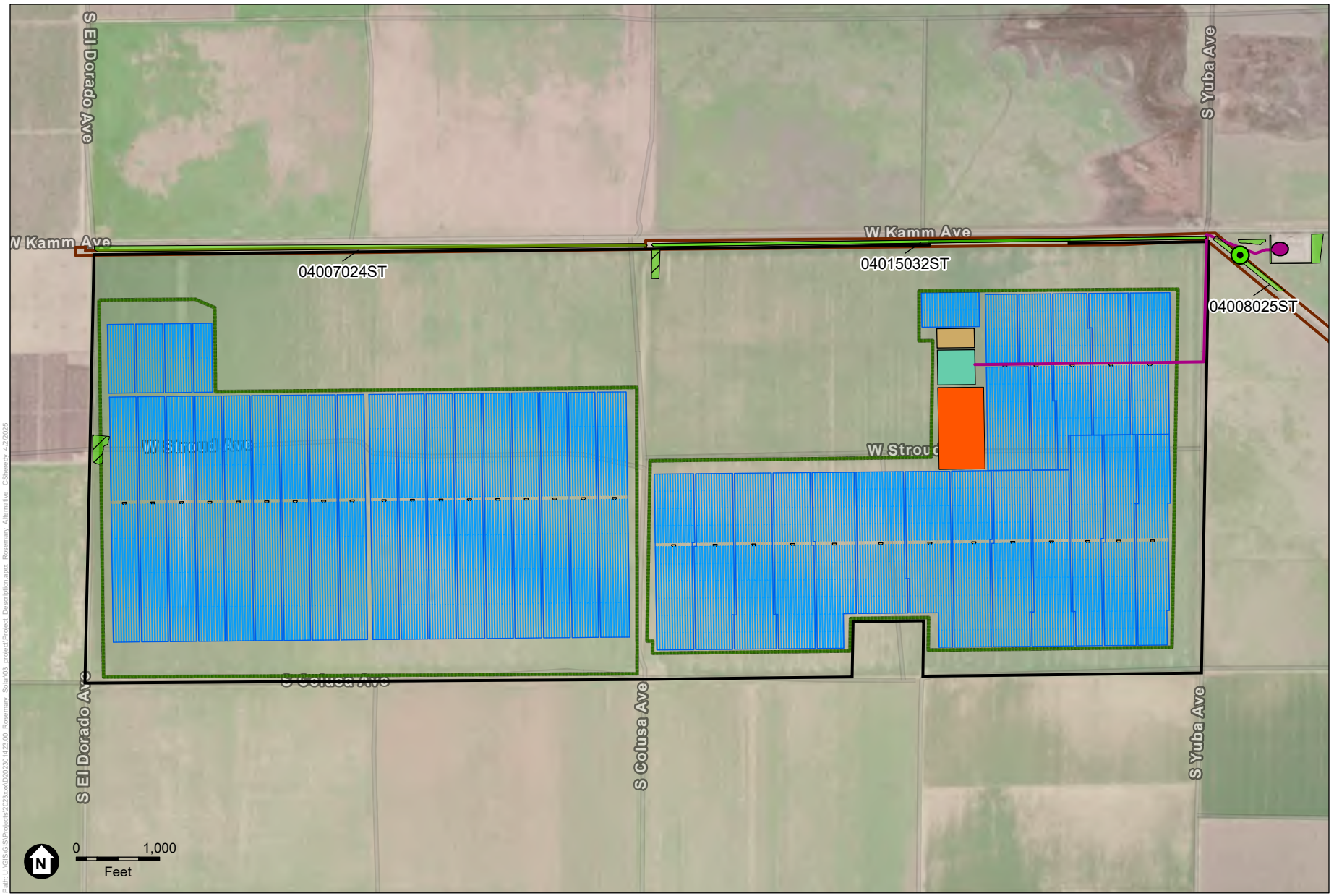
The No Project Alternative would be potentially feasible, could avoid or substantially lessen potential significant impacts of the Rosemary Project, and its implementation would not be remote or speculative. Although No Project Alternative fails screening because it would not meet any of the Project objectives, the No Project Alternative nonetheless has been carried forward for more detailed review in accordance with the requirements of CEQA.

4.3.2 Alternative 1: West Kamm Avenue Setback Alternative

Alternative 1 would be substantially the same as the Project as proposed unless otherwise noted. Alternative 1 would occupy roughly 55 percent of the Rosemary Project site footprint (640 acres of the proposed 1,172-acre Rosemary Project site). This reduction in acreage would be accomplished by relocating the shared facilities to APNs 040-15-008T, 040-15-010, APN 040-15-018T, and 040-16-021ST and by removing the solar facilities and related infrastructure originally proposed north of the northernmost collector lines in Rosemary 2 and Rosemary 3 and north of the "not a part" area in Rosemary 1. See **Figure 4-1**, *Project Alternative*. The areas excluded from Alternative 1 relative to the Project as proposed would continue to be used as they are under baseline conditions. The reduction in site acreage would reduce the collective generation capacity to approximately 77 MW (as compared to the proposed Project's 140 MW) and reduce the storage capacity from 140 MWac of energy to 77 MWac. The duration of storage (i.e., up to approximately 140 MWac) would remain unchanged. Alternative 1 would require approximately 10 months to construct.

The on-site substation would be shifted west relative to the proposed location, to the Rosemary 2 site. The gen-tie line for Alternative 1 would travel east from the shared facilities along the collector line path shown for Rosemary 1 and then north along the collector line path shown adjacent to South Yuba Avenue before crossing the U.S. Bureau of Reclamation's irrigation canal via the path proposed as gen-tie line option 2 to connect to the PG&E Crescent Switching Station via the path proposed as gen-tie line option 3. The Alternative 1 gen-tie line would be approximately 4,500 linear feet: approximately 6,000 feet shorter than the up-to approximately 2 linear miles analyzed for the Project as proposed. 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.

Alternative 1 would meet all of the Project objectives and 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. This Alternative has been developed with the intention of incrementally reducing the proposed Project's overall duration of construction (and associated air emissions), potential to inadvertently discover presently unknown subsurface resources (whether cultural, tribal cultural, or paleontological), and cause adverse impacts to burrowing owl and its habitat (both occupied and suitable). As shown on Figure 4-1, Alternative 1 maintains a buffer of at least 250 feet that would separate burrowing owl habitat and occupied burrows from project infrastructure in nearly all areas that otherwise could have been affected by the Project as proposed. Its implementation is neither remote nor speculative.



SOURCE: ESA, 2025

- Bureau of Reclamation Parcel
- Facility Boundary
- Site Fence (Up to 8' Tall, Chain Link)
- Gen-Tie Line
- Photovoltaic Block
- Photovoltaic Array
- O&M Facilities and Parking
- Site Substation
- Battery Energy Storage System (BESS)
- P.O.I. at Existing Substation

Burrowing Owl (BUOW)

- BUOW Observation
- BUOW Occupied Burrow
- BUOW Suitable Burrow

Rosemary Solar and Energy Storage System Complex

Figure 4-1
Project Alternative

ESA

4.3.3 Alternative 2: On-Site Substation Technology Alternative

Alternative 2 would include all of the components of the Project as proposed but would reduce the Rosemary Project surface footprint by between 0.9 to 2.1 acres at the location of the on-site substation. The Alternative 2 substation would be located in the "optional" location shown on Figure 2-6, *Optional Project Site Plan*. The reduction in site acreage would be accomplished by using a gas-insulated substation (GIS) instead of the proposed air-insulated substation (AIS).

A GIS uses an insulating gas medium, usually sulfur hexafluoride (SF_6), to enclose the primary components of a high-voltage substation, such as conductors, circuit-breaker interrupters, switches, and transformers, inside grounded metal enclosures. A GIS typically requires one-third to one-tenth the space of an equivalent AIS. The Project as proposed includes a 3-acre substation, which, if replaced with a GIS, could reduce the substation footprint by between approximately 1 and 2 acres. GISs have higher initial costs than traditional AISs but generally require lower long-term maintenance costs, due to more frequent maintenance associated with AISs. GISs, however, require strict handling procedures to prevent leaks of SF_6, which is a potent greenhouse gas.

Alternative 2 would meet all of the basic objectives of the Project as proposed and would be potentially feasible. The reduction in the Project's surface footprint resulting from installation of a GIS at the Alternative 2 on-site substation location could substantially lessen the Project's potential significant impacts on biological resources, specifically burrowing owls, and also reduce the significant surface disturbance-related impacts of the Project as proposed. Alternative 2's implementation would not be remote or speculative.

4.3.4 Alternative 3: Distributed Generation Alternative

Distributed power generation refers to a variety of technologies that generate electricity at or near where it will be used. Distributed power resources may be stand-alone or grid connected and may preclude the need for transmission lines.

Alternative 3 would have the capacity to generate 140 MW (the same as the Rosemary Project as proposed) but would rely on the placement of solar panels on the roofs of residential, commercial, industrial, and institutional buildings throughout the County. Alternative 3 would involve the development of a number of geographically distributed small to medium solar PV systems (e.g., 100 kWh to 1 MW each) on rooftops situated throughout Fresno County that have been identified as suitable for solar panel installations. Google's Project Sunroof effort has identified 94 percent of the buildings in Fresno County as *solar viable*, where viability is based on each roof having a total potential installation size of at least 2 kW, and each solar panel receiving at least 75 percent of the maximum annual sun in the County based on National Renewable Energy Lab weather station data (Google 2025). Only areas of the roof with enough space to install 4 adjacent solar panels were included as viable. Obstacles like chimneys were taken into account.

Under this alternative, no undeveloped land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage would be required to attain the proposed project's capacity of 140 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would

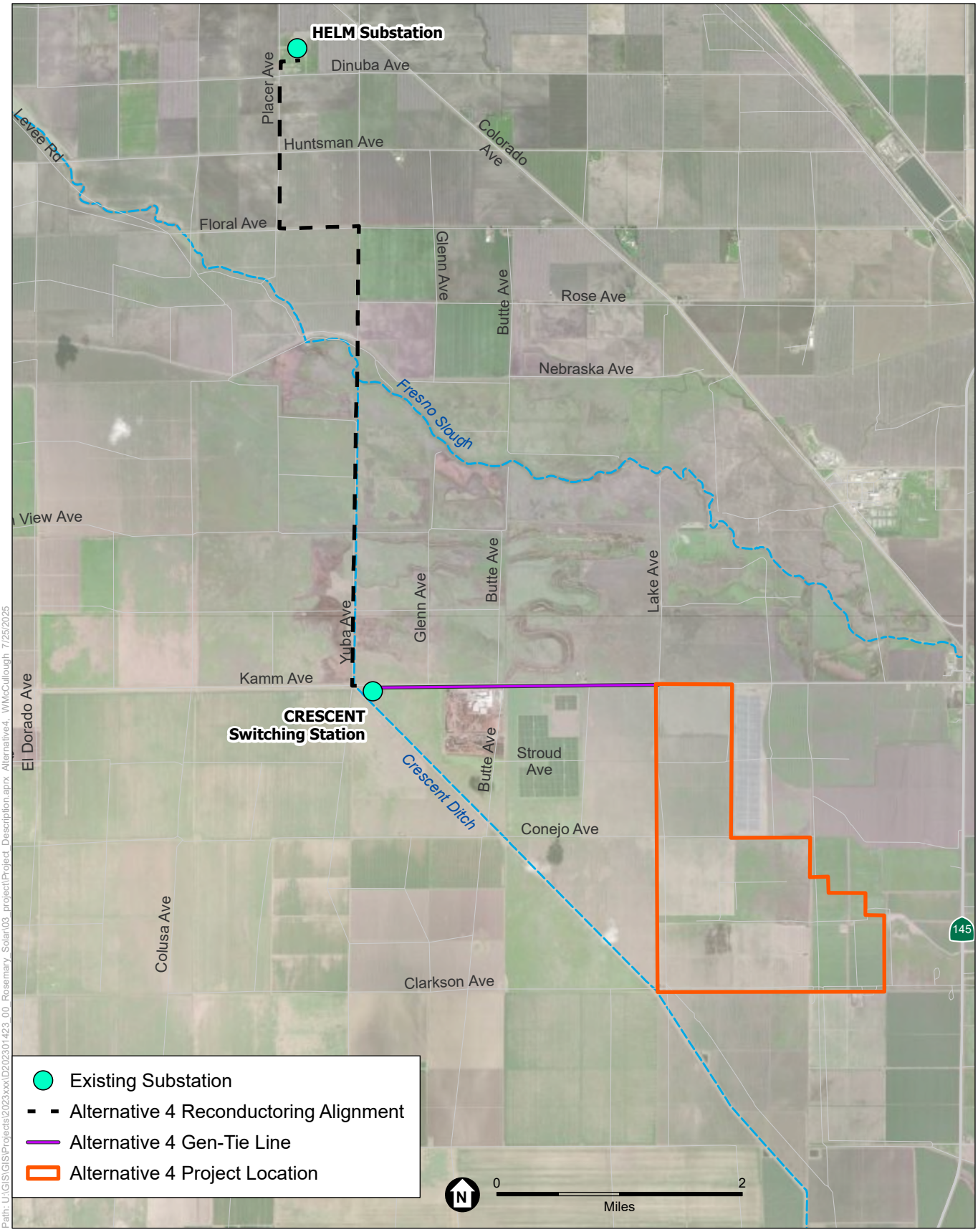
be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation.

Similar to the Rosemary Project, the distributed power alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by distributed solar PV systems would be consumed on-site by commercial or industrial facilities, or could be shared via a community solar arrangement that lets multiple customers share power from a single local solar source. Power generated by distributed solar PV systems typically would not require the construction of new electrical substation or transmission facilities, and the solar power could only be used during daylight hours. Vehicle trips needed to support construction and maintenance activities would be dispersed in accordance with the individual site locations.

Although Alternative 3 would not fully meet Project objective 1 (because it would not include energy storage capacity of 8 hours of 140 MWac), it would meet most of the basic objectives of the Project and so would pass screening factor 1. Alternative 3 could avoid all of the potential significant ground-disturbance related impacts of the Project as proposed and would have no impact on burrowing owl or its habitat, or on established wildlife movement corridors for terrestrial species such as kit fox. However, it is unlikely that distributed generation system of this size would be built out within a timeframe that would be similar to that of the Project. Further, given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher. The Applicant does not have immediate control or access to potential urban sites that could accommodate facilities to generate the solar power, making achievement of this alternative speculative. Finally, the electricity would be used on the sites generating the power and would not achieve the project objective of assisting California in meeting its obligations under the RPS Program.

4.3.5 Alternative 4: Alternative Location

Alternative 4 would involve a project of the same size (140 MW) but developed at another location within Fresno County. An alternative location with a project of the same size would require approximately 1,200 acres of land for the solar energy facility (with a similar impact footprint as the proposed Project), which would include energy storage and associated facilities similar to the proposed Project. The land in the vicinity of the project site consists primarily of farmland that could potentially accommodate a project of a similar size; however, unlike the proposed Project site, much of the surrounding land is subject to Williamson Act contracts. See **Figure 4-2**, *Alternative 4 Project Location* which shows a potential offsite alternative located approximately 2 miles east of the Project site. The Alternative 4 gen-tie line would be approximately 11,000 linear feet or 2 miles. 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. The alternative site is zoned AE-20 and, therefore, a utility-scale solar project on that site would require County approval of a conditional use permit. However, the Alternative 4 site is subject to a Williamson Act contract that would require cancellation to allow development of the solar facility.



Source: ESA, 2025

Rosemary Solar and Energy Storage System Complex

Figure 4-2
Alternative 4 Project Location

ESA

Alternative 4 would meet most of the basic Project objectives and could potentially reduce the proposed Project's overall impacts on biological resources (including burrowing owl), aesthetics, and noise. However, due to the uncertainty involved in acquiring control over the Alternative 4 site and securing cancellation of the Williamson Act contract, this Alternative may not be feasible and is too remote and speculative.

4.4 Comparison of Alternatives

The comparison of alternatives provided in **Table 4-1**, *Summary of Impacts of the Project and Alternatives,* focuses on the resources on which the Project would have a potential significant impact, even though all of the identified impacts of the Project could be reduced to a less-than-significant level with the implementation of one or more mitigation measures. For the remaining resources, the alternatives would not cause a more significant impact than the Project as proposed, and otherwise would not substantially affect the significance conclusions reached for the Project. Table 4-1 satisfies 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.*

4.5 Environmentally Superior Alternative

Consistent with the CEQA Guidelines, this Draft EIR considers the *environmentally superior alternative* to be that alternative with the least adverse impacts on the project area and its surrounding environment. Among the Project, No Project Alternative, and Alternatives 1, 2, 3, and 4, 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 of non-irrigated or fallowed agricultural land. Therefore, for this Project, the No Project Alternative is considered the environmentally superior alternative for CEQA purposes. However, the No Project Alternative would fail to meet the basic objectives of the Project. Since the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Determining an environmentally superior alternative can be difficult because of the many factors that must be balanced. For example, Alternative 1 could be preferred because, relative to the Project, it would avoid impacts to biological resources while still meeting most of the basic Project objectives. In contrast, the Project could be preferred because, relative to Alternative 1, it would generate the greatest amount of renewable energy, and thereby offset the most metric tons of carbon dioxide emissions generated by fossil fuel sources of electricity and have resulting beneficial effects on GHG emissions and energy, providing greater assistance to the state toward meeting the renewable energy generation targets set in SB 100.

Alternative 3 could be considered superior to the Project because it would avoid or substantially reduce the Project's significant impacts on air quality, biological resources, and impacts resulting from

subsurface disturbance. By contrast, the Project could be considered environmentally superior to Alternative 3 because it includes an energy storage system that would help to stabilize the regional grid, thereby reducing the risk of power outages that can cause greater reliance on backup generators, which can emit significant air pollution and cause fires if not used properly or maintained regularly, and would assist California in meeting its obligations under the RPS Program.

Additional information received or developed during the agency and public review period for the Draft EIR or during the Project approval process that could affect the balancing of the respective benefits and consequences of the alternatives will be considered. However, because Alternative 3 reduces impacts to a greater degree than the other alternatives, the Distributed Generation Alternative is considered the Environmentally Superior Alternative. It is also important to note that it may be impracticable, infeasible, and too speculative to construct the Distributed Generation Alternative within the same timeframe and/or with the same efficiency as the Project because the Applicant lacks control and access to the sites required to develop 140 MW of distributed solar generated electricity. The Distributed Generation Alternative also would not assist the State of California in achieving or exceeding its RPS goals.

TABLE 4-1
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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Aesthetics					
Impact 3.2-1: LTS. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. **Impact 3.2-3:** LTS. The Project would not create a new source of light or glare that would adversely affect day or nighttime views in the area. **Impact 3.2-1c:** LTS. The Project would not cause or contribute to any cumulative effect related to the degradation of the existing visual character or quality of public views of the site and its surroundings. **Impact 3.2-3c:** LTS. The Project would not cause or contribute to any cumulative effect related to a new source of light and glare which would adversely affect day or nighttime views in the area.	**Overall: less than the Project** • **Impact 3.2-1:** No Impact (less than the Project) because no 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. • **Impact 3.2-3:** No Impact (less than the Project) because no Project-related development would create a new source of light or glare that would adversely affect day or nighttime views in the area. • **Impact 3.2-1c:** 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. • **Impact 3.2-3c:** No Impact (less than the Project) because the No Project Alternative would not cause or contribute to any cumulative effect related to a new source of light and glare which would adversely affect day or nighttime views in the area.	**Overall: = (same as than the Project)** • **Impact 3.2-1:** LTS (same as the Project) because although elements of the Project components would be visible, limited public views of the energy storage project would be available from publicly accessible vantage points. 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. • **Impact 3.2-3:** 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. • **Impact 3.2-1c:** 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. • **Impact 3.2-3c:** LTS (same as the Project) because Alternative 1 would cause the incremental contributions noted above related to a new source of light and glare which would adversely affect day or nighttime views in the area, but none would be cumulatively considerable for reasons similar to those described for the Project as proposed.	**Overall: = (same as than the Project)** • **Impact 3.2-1:** LTS (same as the Project) because although elements of the Project components 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. • **Impact 3.2-3:** 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. • **Impact 3.2-1c:** 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. • **Impact 3.2-3c:** LTS (same as the Project) because Alternative 1 would cause the incremental contributions noted above related to a new source of light and glare which would adversely affect day or nighttime views in the area, but none would be cumulatively considerable for reasons similar to those described for the Project as proposed.	**Overall: less than the Project** • **Impact 3.2-1:** No Impact (less than the Project) because no 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. • **Impact 3.2-3:** No Impact (less than the Project) because no Project-related development would create a new source of light or glare that would adversely affect day or nighttime views in the area. • **Impact 3.2-1c:** No Impact (less than the Project) because Alternative 3 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. • **Impact 3.2-3c:** No Impact (less than the Project) because Alternative 3 would not cause or contribute to any cumulative effect related to a new source of light and glare which would adversely affect day or nighttime views in the area.	**Overall: less than the Project** • **Impact 3.2-1:** LTS (less than the Project) because the site would be located an additional 2 miles away from the nearest sensitive receptor. Motorists traveling on public roads may still be able to obtain views of the site, but similar to the proposed Project the existing visual character or quality of the public views would not be substantially degraded. • **Impact 3.2-3:** LTS (less than the Project) because Alternative 4 would create new sources of light or glare at an alternative location further away for the nearest residence. Alternative 4 would have a decreased effect from light and glare in relation to the proposed Project. • **Impact 3.2-1c:** LTS (less than the Project) because Alternative 4 would be located further away from the nearest sensitive receptor (a residence), reducing the incremental contributions noted above. • **Impact 3.2-3c:** LTS (less than the Project) because Alternative 4 would decrease the effects of light and glare to nearby sensitive receptors. Its incremental cumulative contributions would be reduced compared to the Project as proposed.
Agriculture and Forestry Resources					
The Project would cause no impact related to conversion of farmland to non-agricultural use. The Project would cause no impact related to conflicts with existing zoning for agricultural use or with a Williamson Act contract. The Project would cause no impact related to conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production. The Project would cause no impact related to the loss of forest land or conversion of forest land to non-forest use. The Project would cause no impact related to changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use. **Impact 3.3-1:** 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.	**Overall: less than the Project** • No impact (same as the Project) because 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 related to conversion of farmland to non-agricultural use. • No impact (same as the Project) because no Project-related development would occur that could conflict with existing zoning for agricultural use or a Williamson Act contract. • No impact (same as the Project) because no Project-related development would occur that could conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. • No impact (same as the Project) because no Project-related development would occur that could cause impacts related to the loss of forest land or conversion of forest land to non-forest use.	**Overall: = (same as than the Project)** • No impact (same as the Project). Because Alternative 1 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to conversion of farmland to non-agricultural use. • No impact (same as the Project). Because Alternative 1 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to conflicts existing zoning for agricultural use or with a Williamson Act contract. • No impact (same as the Project). Because Alternative 1 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production.	**Overall: = (same as than the Project)** • No impact (same as the Project). Because Alternative 2 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to conversion of farmland to non-agricultural use. • No impact (same as the Project). Because Alternative 2 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to conflicts existing zoning for agricultural use or with a Williamson Act contract. • No impact (same as the Project). Because Alternative 2 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production.	**Overall: less than the Project** • No impact (same as the Project) because 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 related to conversion of farmland to non-agricultural use. • No impact (same as the Project) because no Project-related development would occur that could conflict with existing zoning for agricultural use or a Williamson Act contract. • No impact (same as the Project) because no Project-related development would occur that could conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. • No impact (same as the Project) because no Project-related development would occur that could cause impacts related to changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.	**Overall: greater than the Project** • LTS impact (greater than the Project). Because Alternative 4 would entail development of the Project on a site that is designated as Prime Farmland and Farmland of Local Importance impacts related to conversion of farmland to non-agricultural use would be greater than those described for the proposed Project. • LTS impact (greater than the Project). Because Alternative 4 would entail development of the Project on a property that contains an active Wiliamson Act contract, impacts would be greater than those described for the proposed Project. • No impact (same as the Project). Because Alternative 4 would entail development of a site that consists of agricultural uses, there would be no change to the impacts related to conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production. • No impact (same as the Project). Because Alternative 4 would entail development of a site that consists of agricultural uses, there

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Impact 3.3-1c: LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of farmland to non-agricultural use.	• No impact (same as the Project) because no Project-related development would occur that could cause impacts related to changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use. • **Impact 3.3-1:** No Impact (less than the Project) because if the No Project Alternative were to be implemented, then none of the proposed Project-related development would take place and 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, no Project-related development would cause changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. • **Impact 3.3-1c:** No Impact (less than the Project) because the No Project Alternative would cause no incremental impacts that could contribute to cumulative effects.	• No impact (same as the Project). Because Alternative 1 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to the loss of forest land or conversion of forest land to non-forest use. • No impact (same as the Project). Because Alternative 1 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use. • **Impact 3.3-1:** LTS (same as the Project). Because Alternative 1 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be impacts similar to the Project related to changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use • **Impact 3.3-1c:** LTS (same as the Project). Alternative 1 would result in similar impacts and would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of farmland to non-agricultural use.	• No impact (same as the Project). Because Alternative 2 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to the loss of forest land or conversion of forest land to non-forest use. • No impact (same as the Project). Because Alternative 2 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be no change to the impacts related to changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use. • **Impact 3.3-1:** LTS (same as the Project). Because Alternative 2 would entail development of the site with the same components but would be developed on a subset of the Project site, there would be impacts similar to the Project related to changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use • **Impact 3.3-1c:** LTS (same as the Project). Alternative 2 would result in similar impacts and would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of farmland to non-agricultural use.	• **Impact 3.3-1:** No Impact (less than the Project) because if Alternative 3 were to be implemented, then none of the proposed Project-related development would take place and 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, no Project-related development would cause changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. • **Impact 3.3-1c:** No Impact (less than the Project) because Alternative 3 would cause no incremental impacts that could contribute to cumulative effects.	would be no change to the impacts related to the loss of forest land or conversion of forest land to non-forest use. • No impact (same as the Project). Because Alternative 4 would entail development of a site that consists of agricultural uses, there would be no change to the impacts related to changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use. • **Impact 3.3-1:** LTS (greater than the Project). Because Alternative 4 would entail development of a site that consists of agricultural uses, there would be impacts greater than the Project related to changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. • **Impact 3.3-1c:** LTS (greater than the Project). Alternative 4 would result in greater impacts in comparison with the proposed Project related to the conversion of farmland to non-agricultural use and therefore would result in higher incremental contributions to cumulative effects.
Air Quality					
Impact 3.4-1: LTS. The Project would not conflict with or obstruct implementation of the applicable air quality plan. **Impact 3.4-2:** LTS. The Project would result in a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard. **Impact 3.4-3:** LTSM. The Project would expose sensitive receptors to pollutant concentrations and risk of contracting Valley Fever. Mitigation Measure 3.4-3 would be implemented to reduce impacts to less than significant. **Impact 3.4-1c:** LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect relating to conflict with or obstruction of the implementation of the applicable air quality plan. **Impact 3.4-2c:** LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect associated with a net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard. **Impact 3.4-3c:** LTS. The Project would not cause a cumulatively considerable contribution	**Overall: less than the Project** • **Impact 3.4-1:** No Impact (less than the Project) because no criteria pollutant emissions would be generated that could conflict with SJVAPCD's air quality plans. • **Impact 3.4-2:** No Impact (less than the Project) because no emissions would be generated that could contribute to violations of ambient air quality standards. • **Impact 3.4-3:** No Impact (less than the Project) because no pollutants would be emitted that could expose sensitive receptors to substantial pollutant concentrations and risk of contracting Valley Fever • **Impact 3.4-1c:** No Impact (less than the Project) because no Project-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. • **Impact 3.4-2c:** No Impact (less than the Project) because no Project-related activities would occur on-site that would cause emissions that could cause or contribute to a cumulative effect due to violations of ambient air quality standards.	**Overall: less than the Project** • **Impact 3.4-1:** 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. • **Impact 3.4-2:** 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. • **Impact 3.4-3:** LTSM (same as the Project) because Alternative 1 would involve the same or similar activities that would lead to fugitive dust emissions and risk of exposure to Valley Fever spores. Mitigation Measure 3.4-3 would still be required to be implemented to reduce impacts to less than significant. • **Impact 3.4-1c:** LTS (similar to but less than the Project) because Alternative 1 would	**Overall: less than the Project** • **Impact 3.4-1:** 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. • **Impact 3.4-2:** 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. • **Impact 3.4-3:** LTS (similar to but less 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. • **Impact 3.4-6:** LTS (similar to but less than the Project) because Alternative 2 would generate fewer criteria pollutant emissions that would contribute to a significant	**Overall: less than the Project** • **Impact 3.4-1:** LTS. (less than the Project) because fewer Alternative 3-related development criteria pollutant emissions would be generated that could conflict with SJVAPCD's air quality plans. • **Impact 3.4-2:** LTS. (less than the Project) because fewer Alternative 3-related development emissions would be generated that could contribute to violations of ambient air quality standards. • **Impact 3.4-3:** LTS. (less than the Project) because fewer Alternative 3-related development pollutants would be emitted that could expose sensitive receptors to substantial pollutant concentrations and risk of contracting Valley Fever • **Impact 3.4-1c:** LTS. (less than the Project) because fewer Alternative 3-related development activities would occur that could emit criteria pollutants that could cause or contribute to any cumulative effect due to a conflict with SJVAPCD's air quality plans. • **Impact 3.4-2c:** LTS. (less than the Project) because fewer Alternative 3-related activities would occur that would cause emissions that could cause or contribute to a cumulative	**Overall: same as the Project** • **Impact 3.4-1:** LTS (same as the Project). Because Alternative 4 would result in similar surface disturbance area as the proposed Project, the amount of construction dust and emissions would be the same, and, similar to the proposed Project, would not conflict with SJVAPCD's air quality plans. • **Impact 3.4-2:** LTS (same as the Project) because the development footprint would be similar to the proposed Project; emissions would therefore be similar to the Project and would not contribute to violations of ambient air quality standards. • **Impact 3.4-3:** LTSM (same as the Project) because Alternative 4 would involve the same or similar activities that would lead to fugitive dust emissions and risk of exposure to Valley Fever spores. Mitigation Measure 3.4-3 would still be required to be implemented to reduce impacts to less than significant. • **Impact 3.4-1c:** LTS (same as the Project) because Alternative 4 would generate similar criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans.

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
to any significant cumulative effect associated with exposure of sensitive receptors to pollutant concentrations and risk of contracting Valley Fever.	• **Impact 3.4-3c:** No Impact (less than the Project) because no Project-related activities would occur on-site that would expose sensitive receptors to substantial pollutant concentrations and risk of contracting Valley Fever, and thereby cause or contribute to a significant cumulative effect.	generate fewer criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans. • **Impact 3.4-2c:** LTS (similar to but less than the Project) because Alternative 1 would generate fewer emissions than the Project and would not contribute to a significant adverse cumulative effect related to violations of ambient air quality standards. • **Impact 3.4-3c:** LTS (similar to but less than the Project) because Alternative 1 would result in reduced exposure of sensitive receptors to substantial pollutant concentrations and exposure to Valley Fever, and thus, a reduced contribution to related cumulative effects.	cumulative effect related to a conflict with SJVAPCD's air quality plans. • **Impact 3.4-7:** LTS (similar to but less than the Project) because Alternative 2 would generate fewer emissions than the Project and would not contribute to a significant adverse cumulative effect related to violations of ambient air quality standards. • **Impact 3.4-8:** LTS (similar to but less 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 effects. • **Impact 3.4-9:** LTS (similar to but less 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 effects.	effect due to violations of ambient air quality standards. • **Impact 3.4-3c:** LTS. (less than the Project) because fewer Alternative 3-related activities would occur that would expose sensitive receptors to substantial pollutant concentrations and risk of contracting Valley Fever, and thereby cause or contribute to a significant cumulative effect.	• **Impact 3.4-2c:** LTS (same as the Project) because Alternative 4 has a similar footprint as the proposed Project, it would generate similar emissions and would not contribute to a significant adverse cumulative effect related to violations of ambient air quality standards. • **Impact 3.4-3c:** LTS (same as the Project) because Alternative 4 would result in similar related activities that would expose sensitive receptors to substantial pollutant concentrations and risk of contracting Valley Fever; it would therefore have the same cumulatively considerable significant effects.
Biological Resources					
Impact 3.5-2: LTSM. The Project could have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species. Mitigation Measure 3.5-2: Protection of Burrowing Owls would be implemented to reduce impacts to less than significant. **Impact 3.5-4:** LTSM. The Project could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds. Mitigation Measure 3.5-4: Protection of Nesting Birds, Including Swainson's Hawk, would be implemented to reduce impacts to less than significant. **Impact 3.5-7:** LTSM. The Project could interfere substantially with established native resident or migratory wildlife corridors. Mitigation Measure 3.5-6: Wildlife-friendly Site Management, would be implemented to reduce impacts to less than significant. **Impact 3.5-9:** LTSM. The Project could conflict with local policies or ordinances protecting biological resources. Mitigation Measures 3.5-2, 3.5-4, and 3.5-6 would be implemented to reduce impacts to less than significant. **Impact 3.5-11:** LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect on special-status plants, special-status terrestrial wildlife species, or migratory birds. **Impact 3.5-13:** LTSM. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to substantial interference with established native resident or migratory wildlife corridors. **Impact 3.5-14:** LTSM. The Project could contribute to a cumulative effect due to conflict with local policies or ordinances protecting biological resources.	**Overall: less than the Project** • **Impact 3.5-2:** No Impact (less than the Project) because no Project-related activities would have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species. • **Impact 3.5-4:** No Impact (less than the Project) because no Project-related activities could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds. • **Impact 3.5-7:** No Impact (less than the Project) because the No Project Alternative would cause no interference with established native resident or migratory wildlife corridors. • **Impact 3.5-9:** No Impact (less than the Project) because the No Project Alternative would not conflict with local policies or ordinances protecting biological resources. • **Impact 3.5-11:** No Impact (less than the Project) because the No Project Alternative would cause no impact on special-status plants, special-status terrestrial wildlife species, or migratory birds. • **Impact 3.5-13:** No Impact (less than the Project) because the No Project Alternative would cause no cumulatively considerable contribution to a significant cumulative effect due to substantial interference with established native resident or migratory wildlife corridors. • **Impact 3.5-14:** No Impact (less than the Project) because the No Project Alternative would cause no cumulatively considerable contribution due to conflict with local policies or ordinances protecting biological resources.	**Overall: less than the Project** • **Impact 3.5-2:** LTSM (less than the Project) because Alternative 1–related development would occupy fewer acres than the Project, resulting in reduced risk to burrowing owls of mortality or injury caused by construction vehicles or ground disturbance. However, Mitigation Measure 3.5-2 would still be required. • **Impact 3.5-4:** LTSM (similar to but less than the Project) because Alternative 1 would have fewer, but still significant, impacts on Swainson's hawk, loggerhead shrike, or other migratory birds. Mitigation Measure 3.5-4: Protection of Nesting Birds, Including Swainson's Hawk, would still be implemented to reduce impacts to less than significant. • **Impact 3.5-7:** LTSM (same as the Project) because Alternative 1 would result in fewer, but still significant, interference with established native resident or migratory wildlife corridors. Mitigation Measure 3.5-6: Wildlife-friendly Site Management, would still be implemented to reduce impacts to less than significant. • **Impact 3.5-9:** LTSM (same as the Project) because Alternative 1 would still conflict with local policies or ordinances protecting biological resources. Mitigation Measures 3.5-2, 3.5-4, and 3.5-6 would be implemented to reduce impacts to less than significant. • **Impact 3.5-11:** LTS (similar to but less than the Project) because Alternative 1 would contribute a reduced incremental impact to cumulative conditions. • **Impact 3.5-13:** LTSM (similar to but less than the Project) because Alternative 1 would contribute a reduced incremental impact to cumulative conditions.	**Overall: less than the Project** • **Impact 3.5-2:** LTSM (similar to but less than the Project) because Alternative 2–related development would occupy only slightly reduced acreage as the Project, resulting in slightly reduced risk to burrowing owls caused by construction vehicles or ground disturbance. Mitigation Measure 3.5-2 would still be required. • **Impact 3.5-4:** LTSM (similar to but less than the Project) because Alternative 2 would have fewer, but still significant, impacts on Swainson's hawk, loggerhead shrike, or other migratory birds. Mitigation Measure 3.5-4: Protection of Nesting Birds, Including Swainson's Hawk, would still be implemented to reduce impacts to less than significant. • **Impact 3.5-7:** LTSM (same as the Project) because Alternative 2 would result in the same impacts to established native resident or migratory wildlife corridors. Mitigation Measure 3.5-6: Wildlife-friendly Site Management, would be implemented to reduce impacts to less than significant. • **Impact 3.5-9:** LTSM (same as the Project) because Alternative 2 could conflict with local policies or ordinances protecting biological resources. Mitigation Measures 3.5-2, 3.5-4, and 3.5-6 would be implemented to reduce impacts to less than significant. • **Impact 3.5-11:** LTS (similar to but less than the Project) because Alternative 2 would contribute a reduced incremental impact to cumulative conditions. • **Impact 3.5-13:** LTSM (similar to but less than the Project) because Alternative 2 would contribute a reduced incremental impact to cumulative conditions.	**Overall: less than the Project** • **Impact 3.5-2:** No Impact (less than the Project) because no on-site Project-related activities could have a substantial adverse direct or indirect impact on special-status terrestrial wildlife species. • **Impact 3.5-4:** No Impact (less than the Project) because no on-site Project-related activities could have a substantial adverse direct or indirect impact on Swainson's hawk, loggerhead shrike, or other migratory birds. • **Impact 3.5-7:** No Impact (less than the Project) because Alternative 3 would cause no interference with established native resident or migratory wildlife corridors. • **Impact 3.5-9:** No Impact (less than the Project) because Alternative 3 would not conflict with local policies or ordinances protecting biological resources. • **Impact 3.5-11:** No Impact (less than the Project) because Alternative 3 would cause no impact on special-status plants, special-status terrestrial wildlife species, or migratory birds. • **Impact 3.5-13:** No Impact (less than the Project) because Alternative 3 would cause no cumulatively considerable contribution to a significant cumulative effect due to substantial interfere with established native resident or migratory wildlife corridors. • **Impact 3.5-14:** No Impact (less than the Project) because Alternative 3 would cause no cumulatively considerable contribution due to conflict with local policies or ordinances protecting biological resources.	**Overall: less than the Project** • **Impact 3.5-2:** LTSM (less than the Project) because the site for Alternative 4 is located within the same general area as the proposed Project, the site would support similar wildlife species. However, land in active agricultural use is less suitable habitat for wildlife species. In addition, the alternative site is located further away from the Crescent Canal (an area which is known to support burrowing owls). Due to the greater distance from the canal and the current agricultural activities at this alternative location, it is anticipated that burrowing owls are less likely to be present. However, since the site has not been surveyed, Mitigation Measure 3.5-2 would still be implemented to reduce potential impacts to less than significant. • **Impact 3.5-4:** LTSM (same as the Project) because Alternative 4 is located within the same general area as the proposed Project (approximately 2 miles east); therefore, impacts on Swainson's hawk, loggerhead shrike, or other migratory birds may still occur. Mitigation Measure 3.5-4 would still be implemented to reduce impacts to less than significant. • **Impact 3.5-7:** LTSM (same as the Project) because Alternative 4 is located within the same general area on a site that is currently used for agricultural production, so development of this site could result in interference with established native resident or migratory wildlife corridor similar to the proposed Project. Mitigation Measure 3.5-6 would still be implemented to reduce impacts to less than significant. • **Impact 3.5-9:** LTSM (same as the Project) because Alternative 4 would potentially conflict with local policies or ordinances protecting biological resources. Mitigation Measures 3.5-2, 3.5-4, and 3.5-6 would be

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
		• **Impact 3.5-14:** LTS (same as the Project) because Alternative 1 would contribute the same incremental impact to cumulative conditions due to conflict with local policies or ordinances protecting biological resources.	• **Impact 3.5-14:** LTSM (same as the Project) because Alternative 2 would contribute the same incremental impact to cumulative conditions.		implemented to reduce impacts to less than significant. • **Impact 3.5-11:** LTS (same as the Project) because Alternative 4 would contribute an incremental impact to cumulative conditions. • **Impact 3.5-13:** LTSM (same as the Project) because Alternative 4 would contribute an incremental impact to cumulative conditions. • **Impact 3.5-14:** LTS (same as the Project) because Alternative 4 would contribute the same incremental impact to cumulative conditions due to conflicts with local policies or ordinances protecting biological resources.
Cultural and Tribal Cultural Resources					
The Project would cause no impact related to adverse changes to the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. **Impact 3.6-1:** LTSM. 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 Measures 3.6-1 and 3.6-2 would reduce this impact to a less-than-significant level. **Impact 3.6-2:** LTSM. Ground-disturbing activities associated with the Project could result in damage to previously unidentified human remains. The implementation of Mitigation Measure 3.6-3 would reduce this impact to a less-than-significant level. **Impact 3.6-3:** LTSM. 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, 3.6-2, and 3.6-3 would reduce this impact to a less-than-significant level. **Impact 3.6-6:** LTS. Ground-disturbing activities associated with the Project would not contribute to any significant cumulative effect on archaeological resources, buried human remains, or tribal cultural resources.	**Overall: less than the Project** • **Impact 3.6-1:** No Impact (less than the Project) because no Project-related ground-disturbance would occur that could result in a new discovery of historical or archaeological resources. • **Impact 3.6-2:** No Impact (less than the Project) because no Project-related ground-disturbance would occur that could result in the discovery of human remains. • **Impact 3.6-3:** No Impact (less than the Project) no Project-related ground-disturbance would cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources. • **Impact 3.6-6:** No Impact (less than the Project) because no Project-related ground-disturbance would cause or contribute to any significant impact related to archaeological resources, buried human remains, or tribal cultural resources.	**Overall: similar to but less than the Project** • **Impact 3.6-1:** LTSM (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. • **Impact 3.6-2:** LTSM (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 3.6-3) would be required to reduce the potential significant impact to a less-than-significant level. • **Impact 3.6-3:** LTSM (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 impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources. • **Impact 3.6-6:** LTS (similar to but less than the Project) because this alternative would not increase the Project's potential to cause or contribute to any significant cumulative effect related to archaeological resources, buried human remains, or tribal cultural resources.	**Overall: similar to but less than the Project** • **Impact 3.6-1:** LTSM (similar to but less than the Project) because Alternative 2 would entail less ground disturbance. 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. • **Impact 3.6-2:** LTSM (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 3.6-3) would be required to reduce the potential significant impact to a less-than-significant level. • **Impact 3.6-3:** LTSM (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 impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources. • **Impact 3.6-6:** LTS (similar to but less than the Project) because this alternative would not increase the Project's potential to cause or contribute to any significant cumulative effect related to archaeological resources, buried human remains, or tribal cultural resources.	**Overall: less than the Project** • **Impact 3.6-1:** No Impact (less than the Project) because no Project-related ground-disturbance would occur that could result in a new discovery of historical or archaeological resources. • **Impact 3.6-2:** No Impact (less than the Project) because no Project-related ground-disturbance would occur that could result in the discovery of human remains. • **Impact 3.6-3:** No Impact (less than the Project) no Project-related ground-disturbance would cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources. • **Impact 3.6-4:** No Impact (less than the Project) because no Project-related ground-disturbance would cause or contribute to any significant impact related to archaeological resources, buried human remains, or tribal cultural resources.	**Overall: = (same as the Project)** • **Impact 3.6-1:** LTSM (same as the project) because Alternative 4 would result in the same amount of construction and associated ground-disturbing activities. Similar to the proposed Project, the alternative site is considered to have a low sensitivity for archaeological resources based on the proximity to water, landform slope, and past agricultural activity. However, because disturbance would occur that could cause a potentially 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. • **Impact 3.6-2:** LTSM (same as the Project) because Alternative 4 would result in the same amount of construction and associated ground-disturbing activities, and thus the same 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 3.6-3) would be required to reduce the potential significant impact to a less-than-significant level. • **Impact 3.6-3:** LTSM (same as the Project) because Alternative 4 would result in the same amount of construction and associated ground-disturbing activities and thus the same potential to cause a substantial adverse impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources. • **Impact 3.6-6:** LTS (same as the Project) because this alternative site would not increase the Project's potential to cause or contribute to any significant cumulative effect related to archaeological resources, buried human remains, or tribal cultural resources.

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Energy					
Impact 3.7-1: LTS. The Project would result in consumption and use of energy. Neither construction nor operation of the Project would result in wasteful, inefficient, or unnecessary use of energy. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **Impact 3.7-1c:** LTS. The Project would not cause or contribute to any significant cumulative effect relating to consumption and use of energy.	**Overall: less than the Project** • **Impact 3.7-1:** 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. • **Impact 3.7-1c:** No Impact (less than the Project). Because no energy use and no energy storage would occur, no cumulative effects would result.	**Overall: less than the Project** • **Impact 3.7-1:** 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. • **Impact 3.7-1c:** LTS (less than the Project) because Alternative 1's incrementally reduced energy demand would not cause or contribute to a significant adverse cumulative effect.	**Overall: = (same as the Project)** • **Impact 3.7-1:** LTS (same as the Project) because Alternative 2's reduced surface disturbance would reduce the energy demands compared to the Project. However, increases in energy demand would likely result from additional construction and operation requirements of the GIS. • **Impact 3.7-2:** LTS (same as the Project) because Alternative 2's similar energy demand would not cause or contribute to a significant adverse cumulative effect.	**Overall: similar to but less than the Project** • **Impact 3.7-1:** LTS. (same as the Project) Alternative 3 would result in consumption and use of energy. Neither construction nor operation of the Project would result in wasteful, inefficient, or unnecessary use of energy. • **Impact 3.7-1c:** LTS (similar to but less than the Project) because Alternative 3's similar, but slightly reduced, energy demand would not cause or contribute to a significant adverse cumulative effect.	**Overall: = (same as the Project)** • **Impact 3.7-1:** LTS (same as the Project) because Alternative 4 would result in consumption and use of energy. Neither construction nor operation of the Project would result in wasteful, inefficient, or unnecessary use of energy. • **Impact 3.7-2:** LTS (same as the Project) because Alternative 4's similar energy demand would not cause or contribute to a significant adverse cumulative effect.
Geology, Soils, and Paleontological Resources					
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 Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. **Impact 3.8-1:** 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 or ground failure, including liquefaction. **Impact 3.8-2**: LTS. The Project would result in soil erosion or loss of topsoil during construction and decommissioning. **Impact 3.8-4:** 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 landslide, lateral spreading, subsidence, liquefaction, or collapse. **Impact 3.8-5:** LTS. The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property. **Impact 3.8-6:** 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. **Impact 3.8-7:** LTSM. The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. **Impact 3.8-7c:** LTS. The Project would not cause or contribute to any potential significant adverse cumulative effect relating to paleontological resources. **Impact 3.8-8:** LTS. The Project would not cause or contribute to any potential significant adverse cumulative effect relating to geology and soils.	**Overall: less than the Project** • **Impact 3.8-1:** No Impact (less than the Project) because no Project-related ground-disturbance or development would occur that could result in a substantial adverse impact involving strong seismic ground shaking or ground failure, including liquefaction. • **Impact 3.8-2:** No Impact (less than the Project) because no Project–related ground-disturbance or development would occur that could result in a substantial soil erosion or loss of topsoil. • **Impact 3.8-4:** No Impact (less than the Project) because no Project-related ground-disturbance or development would occur that could result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. • **Impact 3.8-5:** No Impact (less than the Project) because no Project-related ground-disturbance or would be located on expansive soil. • **Impact 3.8-6:** No Impact (less than the Project) because no Project-related ground-disturbance or development would affect septic tanks or alternative wastewater disposal systems. • **Impact 3.8-7:** No Impact (less than the Project) because Project-related ground-disturbance or development would occur that could destroy a unique paleontological resource or site. • **Impact 3.8-7c**: No Impact (less than the Project) because the No Project Alternative would not contribute to any potential significant adverse cumulative effect relating to paleontological resources. • **Impact 3.8-8:** No Impact (less than the Project) because the No Project Alternative would not contribute to any potential significant adverse cumulative effect relating to geology and soils.	**Overall: similar to but less than the Project** • **Impact 3.8-1:** 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. • **Impact 3.8-2:** 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. • **Impact 3.8-4:** 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. • **Impact 3.8-5:** 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. • **Impact 3.8-6:** LTS (similar to but less than the Project) because Alternative 1 would be developed on a subset of the Project site and (like the Project) would include septic tanks or an alternative wastewater disposal system. • **Impact 3.8-7:** LTS (same as the Project) because development of Alternative 1 would occur on a subset of the Project site and would have similar impacts as the Project on unique paleontological resources or sites or unique geologic features. • **Impact 3.8-7c:** LTS (same as the Project) because development of Alternative 1 would occur on a subset of the Project site and, similarly to the Project, would not cause or contribute to any potential significant adverse cumulative effect relating to paleontological resources. • **Impact 3.8-8:** LTS (same as the Project) because development of Alternative 1 would	**Overall: similar to but less than the Project** • **Impact 3.8-1:** 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. • **Impact 3.8-2:** 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. • **Impact 3.8-4:** 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. • **Impact 3.8-5:** 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. • **Impact 3.8-6:** LTS (similar to but less than the Project) because Alternative 2 would be developed within the same site as the Project and (like the Project) would include septic tanks or an alternative wastewater disposal system. • **Impact 3.8-7:** LTS (same as the Project) because development of Alternative 2 would occur on a subset of the Project site and would have similar impacts as the Project on unique paleontological resources or sites or unique geologic features. • **Impact 3.8-7c:** LTS (same as the Project) because development of Alternative 2 would occur on a subset of the Project site and, similarly to the Project, would not cause or contribute to any potential significant adverse cumulative effect relating to paleontological resources. • **Impact 3.8-8:** LTS (same as the Project) because development of Alternative 2 would occur on a subset of the Project site and, similarly to the Project, would not cause or	**Overall: less than the Project** • **Impact 3.8-1:** No Impact (less than the Project) because no Project-related ground-disturbance or development would occur that could result in a substantial adverse impact involving strong seismic ground shaking or ground failure, including liquefaction. • **Impact 3.8-2:** No Impact (less than the Project) because no Project–related ground-disturbance or development would occur that could result in a substantial soil erosion or loss of topsoil. • **Impact 3.8-4:** No Impact (less than the Project) because no Project-related ground-disturbance or development would occur that could result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. • **Impact 3.8-5:** No Impact (less than the Project) because no Project-related ground-disturbance or would be located on expansive soil. • **Impact 3.8-6:** No Impact (less than the Project) because no Project-related ground-disturbance or development would affect septic tanks or alternative wastewater disposal systems. • **Impact 3.8-7:** No Impact (less than the Project) because Project-related ground-disturbance or development would occur that could destroy a unique paleontological resource or site. • **Impact 3.8-7c**: No Impact (less than the Project) because Alternative 3 would not cause or contribute to any potential significant adverse cumulative effect relating to paleontological resources. • **Impact 3.8-8:** No Impact (less than the Project) because Alternative 3 would not contribute any incremental impact that could cause or contribute to a significant cumulative effect to geology and soils.	**Overall: = (same as the Project)** • **Impact 3.8-1:** LTS (same as the Project) because development of Alternative 4 would not occur in the vicinity of a fault or fault zone wherein ground-disturbance could result in a substantial adverse impact involving strong seismic ground shaking or ground failure, including liquefaction. • **Impact 3.8-2:** LTS (same as the Project) because development of Alternative 4 would result in a similar amount of ground disturbing activities and thus could result in the same soil erosion or loss of topsoil during construction and decommissioning. • **Impact 3.8-4:** LTS (same as the Project) because the alternative site is relatively flat and would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project. • **Impact 3.8-5:** LTS (same as the Project) because development of Alternative 4 would occur on an alternative site that could consist of expansive soils. However, similar to the Project, adherence to applicable state and local building codes and the recommendations provided in the geotechnical investigation would avoid such impacts. • **Impact 3.8-6:** LTS (same as the Project) because development of Alternative 4 would be required to comply with the same County guidelines and requirements for the installation of septic systems. • **Impact 3.8-7:** LTS (same as the Project) because development of Alternative 4 would also result in disturbance of soils deeper than 5 feet below ground surface and would have similar impacts as the Project on unique paleontological resources or sites or unique geologic features. • **Impact 3.8-7c:** LTS (same as the Project) because development of Alternative 4, similarly to the Project, would not cause or contribute to any potential significant adverse

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
		occur on a subset of the Project site and, similarly to the Project, would not cause or contribute to any potentially significant adverse cumulative effects related to geology and soils.	contribute to potential significant adverse cumulative effects related to geology and soils.		cumulative effect relating to paleontological resources. • **Impact 3.8-8:** LTS (same as the Project) because development of Alternative 4, similarly to the Project, would not cause or contribute to potential significant adverse cumulative effects related to geology and soils.
Greenhouse Gas Emissions					
Impact 3.9-1: LTS. The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment. **Impact 3.9-2:** LTS. The Project would be consistent with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. **Impact 3.9-3:** LTS. The Project would not cause a cumulatively considerable contribution to a significant adverse GHG impact.	**Overall: less than the Project** • **Impact 3.9-1:** No Impact (less 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. • **Impact 3.9-2:** No Impact (less 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. • **Impact 3.9-3:** No Impact (less than the Project). Because no GHGs would be emitted over baseline conditions in the No Project scenario, the No Project Alternative could not contribute to cumulatively considerable GHG emissions impacts.	**Overall: greater than the Project** • **Impact 3.9-1:** LTS (similar to but less than the Project). Alternative 1 would entail construction of a project roughly 55 percent of the size of the proposed Project. The reduced project would require fewer equipment-use hours and vehicle trips overall, resulting in reduced GHG emissions relative to the Project. • **Impact 3.9-2:** LTS (greater 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. • **Impact 3.9-3:** LTS (similar to but less than the Project). Because Alternative 1 would result in reduced GHG emissions relative to the Project, this Alternative's contribution to cumulatively considerable GHG emissions would be reduced, as well.	**Overall: greater than the Project** • **Impact 3.9-1:** LTS (greater than the Project). Alternative 2 would reduce the ground disturbance relative to the Project, but may result in increased construction-related GHG emissions from construction of a GIS. Additionally, the use of SF_6, a potent GHG, would require strict monitoring and leak prevention measures to ensure no unintended releases result from project operations. • **Impact 3.9-2:** LTS (similar to 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. • **Impact 3.9-3:** LTS (greater than the Project). Alternative 2 would reduce the ground disturbance relative to the Project, but may result in increased construction-related GHG emissions from construction of a GIS. Additionally, the use of SF_6, a potent GHG, would require strict monitoring and leak prevention measures to ensure no unintended releases result from project operations. This may increase the potential for the project to contribute to a cumulatively considerable impact from GHG emissions.	**Overall: less than the Project** • **Impact 3.9-1:** LTS (less than the Project) because fewer GHGs would be emitted in this scenario. • **Impact 3.9-2:** LTS (less than the Project). Because fewer GHGs would be emitted in the Alternative 3 scenario; however, Alternative 3's lack of 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; Alternative 3 also would not assist the State in meeting RPS goals. • **Impact 3.9-3:** LTS (less than the Project). Because fewer GHGs would be emitted in the Alternative 3 scenario, this Alternative would not contribute to cumulatively considerable GHG emissions impacts.	**Overall: = (same as the Project)** • **Impact 3.9-1:** LTS (same as the Project). Alternative 4 would entail the construction of the same Project approximately 2 miles to the east of the proposed Project location, and thus would have the same significant impact on the environment. • **Impact 3.9-2:** LTS (same as the Project). Alternative 4 would result in a similar facility approximately 2 miles east within the same air basin, and thus would also be consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. • **Impact 3.9-3:** LTS (same as the Project). Because Alternative 4 would result in the same amount of ground disturbance in comparison to the Project, it would have the same potential to contribute to a cumulatively considerable impact from GHG emissions.
Hazards and Hazardous Materials					
Impact 3.10-1: 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. **Impact 3.10-3:** LTS. The Solar Facilities would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. **Impact 3.10-4:** LTS. The Project Battery Energy Storage System would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. **Impact 3.10-6:** LTS. Implementation of the Project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**Overall: less than the Project** • **Impact 3.10-1:** No Impact (less than the Project) because no routine transport, use, or disposal of hazardous materials above baseline conditions would occur. • **Impact 3.10-3:** No Impact (less than the Project) because no Project-related accidental spills or releases of hazardous materials into the environment could occur. • **Impact 3.10-4:** No Impact (less than the Project) because no Project-related development 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. • **Impact 3.10-6:** No Impact (less than the Project) because no Project-related development would impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**Overall: = (same as the Project)** • **Impact 3.10-1:** LTS (same 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. • **Impact 3.10-3:** LTS (same as the Project) because although Alternative 1 development could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, it would not be significant. • **Impact 3.10-4:** LTS (same as the Project) because like the Project, Alternative 1 would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. • **Impact 3.10-6:** LTS (same as the Project) because implementation of Alternative 1 would not impair the implementation of or	**Overall: = (same as the Project)** • **Impact 3.10-1:** LTS (same 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. • **Impact 3.10-3:** LTS (same as the Project) because although Alternative 2 development could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, it would not be significant. • **Impact 3.10-4:** LTS (same as the Project) because like the Project, Alternative 2 would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. • **Impact 3.10-6:** LTS (same as the Project) because implementation of Alternative 2 would not impair the implementation of or	**Overall: less than the Project** • **Impact 3.10-1:** LTS (same 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. • **Impact 3.10-3:** No Impact (less than the Project) because no Project-related accidental spills or releases of hazardous materials into the environment could occur. • **Impact 3.10-4:** No Impact (less than the Project) because no Project-related development 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. • **Impact 3.10-6:** LTS (same as the Project) because development of Alternative 3 would not impair the implementation of or physically interfere with an adopted emergency	**Overall: = (same as the Project)** • **Impact 3.10-1:** LTS (same 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. • **Impact 3.10-3:** LTS (same as the Project) because although Alternative 4 development could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, it would not be significant. • **Impact 3.10-4:** LTS (same as the Project) because, like the Project, Alternative 4 would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. • **Impact 3.10-6:** LTS (same as the Project) because implementation of Alternative 4 would not impair the implementation of or

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Impact 3.10-8: LTS. Implementation of the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. **Impact 3.10-10:** LTS. The Project would not cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials. **Impact 3.10-11:** LTS. The Project would not cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. **Impact 3.10-12:** LTS. The Project would not cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	• **Impact 3.10-8:** No Impact (less than the Project) because no Project implementation would take place that would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. • **Impact 3.10-10:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials. • **Impact 3.10-11:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-12:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	physically interfere with an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-8:** LTS (same as the Project) because implementation of Alternative 1 would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. • **Impact 3.10-10:** LTS (same as the Project) because Alternative 1 would not cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials. • **Impact 3.10-11:** LTS (same as the Project) because Alternative 1 would not cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-12:** LTS (same as the Project) because Alternative 1 would not cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	physically interfere with an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-8:** LTS (same as the Project) because implementation of Alternative 2 would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. • **Impact 3.10-10:** LTS (same as the Project) because Alternative 2 would not cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials. • **Impact 3.10-11:** LTS (same as the Project) because Alternative 2 would not cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-12:** LTS (same as the Project) because Alternative 2 would not cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	response plan or emergency evacuation plan. • **Impact 3.10-8:** No Impact (less than the Project) because no Project implementation would take place that would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. • **Impact 3.10-10:** No Impact (less than the Project) because Alternative 3 development would cause or contribute to a significant adverse cumulative effect on hazards or hazardous materials. • **Impact 3.10-11:** No Impact (less than the Project) because Alternative 3 development would cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-12:** No Impact (less than the Project) because Alternative 3 development would cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	physically interfere with an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-8:** LTS (same as the Project) because implementation of Alternative 4 would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. • **Impact 3.10-10:** LTS (same as the Project) because Alternative 4 would not cause or contribute to a significant adverse cumulative effect from hazards or hazardous materials. • **Impact 3.10-11: LTS** (same as the Project) because Alternative 4 would not cause or contribute to a significant adverse cumulative effect due to impairment or physical interference of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.10-12:** LTS (same as the Project) because Alternative 4 would not cause or contribute to a significant adverse cumulative effect due to exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
Hydrology and Water Quality					
Impact 3.2-1: LTS. The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. **Impact 3.11-3:** 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. **Impact 3.11-5:** 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 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows. **Impact 3.11-7:** LTS. The Project could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone. **Impact 3.11-9:** LTS. The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	**Overall: less than the Project** • **Impact 3.11-1:** No Impact (less than the Project) because no 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. • **Impact 3.11-3:** No Impact (less than the Project) because there would be no change to the existing (baseline) level of demand on groundwater supplies. • **Impact 3.11-5:** No Impact (less than the Project) because no Project-related alteration of the existing drainage pattern of the site or area would occur 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows. • **Impact 3.11-7:** No Impact (less than the Project) because no Project-related development could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone. • **Impact 3.1-9:** No Impact (less than the Project) because no Project-related change	**Overall: less than the Project** • **Impact 3.11-1:** LTS (less than the Project) because Alternative 1 would have a smaller overall footprint and fewer impacts related to violation of water quality standards or waste discharge requirements, or other degradation of surface or groundwater quality would result. • **Impact 3.11-3:** LTS (less than the Project). Alternative 1 would require less ground disturbance and lower water demands than the proposed Project and would therefore have less significant impacts on groundwater recharge. • **Impact 3.11-5:** 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. • **Impact 3.11-7:** LTS (less than the Project) because Alternative 1's reduced area of disturbance would reduce the risk of release of pollutants due to project inundation, due to being located in a flood hazard zone. • **Impact 3.11-9**: LTS (less than the Project) because Alternative 1's reduced footprint and ground disturbance would not conflict with or obstruct implementation of a water quality	**Overall: greater than the Project** • **Impact 3.11-1:** LTS (less than the Project) because Alternative 2 would have a slightly smaller overall footprint and ground disturbance and thus fewer impacts related to violation of water quality standards or waste discharge requirements, or other degradation of surface or groundwater quality would result. • **Impact 3.11-3:** LTS (greater than the Project). Alternative 2 would require less ground disturbance, but construction of the GIS may slightly increase water demands than the proposed Project and therefore may have slightly more significant impacts on groundwater recharge. • **Impact 3.11-5:** 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. • **Impact 3.11-7:** LTS (less than the Project) because Alternative 2's reduced area of disturbance would reduce the risk of release of pollutants due to project inundation, due to being located in a flood hazard zone.	**Overall: less than the Project** • **Impact 3.11-1:** No Impact (less than the Project) because no 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. • **Impact 3.11-3:** No Impact (less than the Project) because there would be no change to the existing (baseline) level of demand on groundwater supplies. • **Impact 3.11-5:** No Impact (less than the Project) because no Project-related alteration of the existing drainage pattern of the site or area would occur 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 provides substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows. • **Impact 3.11-7:** No Impact (less than the Project) because no Project-related development could risk the release of pollutants due to project inundation, due to being located in a flood hazard zone. • **Impact 3.1-9:** No Impact (less than the Project) because no Project-related change	**Overall: similar to but less than the Project** • **Impact 3.11-1:** LTS (same as the Project) because Alternative 4 would have a similar footprint and thus would have similar impacts related to violation of water quality standards or waste discharge requirements, or other degradation of surface or groundwater quality would result. • **Impact 3.11-3:** LTS (same as the Project). Alternative 4 would result in similar ground disturbance and water demands as the proposed Project, and thus the amount of impervious surface would be the same and therefore have similar impacts on groundwater recharge. • **Impact 3.11-5:** LTS (same as the Project) because Alternative 4 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. • **Impact 3.11-7:** LTS (less than the Project) because less of the site footprint for Alternative 4 is located within a flood hazard zone, disturbance would decrease the risk of release of pollutants due to project inundation, due to being located in a flood hazard zone.

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Impact 3.11-11: LTS. The Project would not make a cumulatively considerable contribution to a significant cumulative effect due to violation of any water quality standards or waste discharge requirements or other substantial degradation of surface or ground water quality. **Impact 3.11-12:** LTS. The Project would not make a cumulatively considerable contribution to a significant cumulative effect relating to a substantial decrease in groundwater supplies or substantial interference with groundwater recharge such that sustainable groundwater management of the basin may be impeded. **Impact 3.11-13:** LTS. The Project would not make a cumulatively considerable contribution to a significant cumulative effect relating to substantial alteration of the existing drainage pattern of the site or area in a manner that would: (i) Result in substantial erosion or siltation on- or off-site, (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows. **Impact 3.11-14:** LTS. The Project would not make a cumulatively considerable contribution to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation.	to on-site conditions would occur that could conflict with or obstruct implementation of the water quality control plan or sustainable groundwater management plan. • **Impact 3.11-11**: 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. • **Impact 3.11-12**: No Impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to groundwater supplies or groundwater recharge. • **Impact 3.11-13**: 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. • **Impact 3.11-14:** No Impact (less than the Project) because the No Project Alternative would not contribute to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation.	control plan or sustainable groundwater management plan. • **Impact 3.11-11**: LTS (same as the Project). Alternative 1 would not make a cumulatively considerable contribution to a significant cumulative effect due to violation of any water quality standards or waste discharge requirements or other substantial degradation of surface or ground water quality. • **Impact 3.11-12**: LTS (same as the Project) because Alternative 1 would not make a cumulatively considerable contribution to a significant cumulative effect relating to a substantial decrease in groundwater supplies or substantial interference with groundwater recharge such that sustainable groundwater management of the basin may be impeded. • **Impact 3.11-13:** LTS (same as the Project) because Alternative 1 would not make a cumulatively considerable contribution to a significant cumulative effect relating to substantial alteration of the existing drainage pattern of the site or area in a manner that would: (i) Result in substantial erosion or siltation on- or off-site, (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows. • **Impact 3.11-14:** LTS (same as the Project) because Alternative 1 would not make a cumulatively considerable contribution to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation.	• **Impact 3.11-9**: LTS (less than the Project) because Alternative 2's reduced footprint and ground disturbance would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. • **Impact 3.11-11**: LTS (same as the Project). Alternative 2 would not make a cumulatively considerable contribution to a significant cumulative effect due to violation of any water quality standards or waste discharge requirements or other substantial degradation of surface or ground water quality. • **Impact 3.11-12**: LTS (same as the Project) because Alternative 2 would not make a cumulatively considerable contribution to a significant cumulative effect relating to a substantial decrease in groundwater supplies or substantial interference with groundwater recharge such that sustainable groundwater management of the basin may be impeded. • **Impact 3.11-13:** LTS (same as the Project) because Alternative 2 would not make a cumulatively considerable contribution to a significant cumulative effect relating to substantial alteration of the existing drainage pattern of the site or area in a manner that would: (i) Result in substantial erosion or siltation on- or off-site, (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows. • **Impact 3.11-14:** LTS (same as the Project) because Alternative 2 would not make a cumulatively considerable contribution to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation.	to on-site conditions would occur that could conflict with or obstruct implementation of the water quality control plan or sustainable groundwater management plan. • **Impact 3.11-11**: No Impact (less than the Project) because Alternative 3 would not contribute any incremental impact to cumulative conditions relating to water quality standards, waste discharge requirements, or otherwise to surface or groundwater quality. • **Impact 3.11-12**: No Impact (less than the Project) because Alternative 3 would not contribute any incremental impact to cumulative conditions relating to groundwater supplies or groundwater recharge. • **Impact 3.11-13**: No Impact (less than the Project) because Alternative 3 would not contribute any incremental impact to cumulative conditions relating to alteration of the existing drainage pattern of the site or area. • **Impact 3.11-14:** No Impact (less than the Project) because Alternative 3 would not contribute to a significant cumulative effect due to flood hazard-related risk release of pollutants due to project inundation.	• **Impact 3.11-9**: LTS (same as the Project) because Alternative 4 would have a similar footprint and ground disturbance area, and thus would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. • **Impact 3.11-11**: LTS (same as the Project). Alternative 4 would have a similar footprint and thus would not make a cumulatively considerable contribution to a significant cumulative effect due to violation of any water quality standards or waste discharge requirements or other substantial degradation of surface or ground water quality. • **Impact 3.11-12**: LTS (same as the Project) because while Alternative 4 would have a larger site footprint, the total area of impervious surface would be similar to the proposed Project and would not make a cumulatively considerable contribution to a significant cumulative effect relating to a substantial decrease in groundwater supplies or substantial interference with groundwater recharge such that sustainable groundwater management of the basin may be impeded. • **Impact 3.11-13:** LTS (same as the Project) because Alternative 4 would not make a cumulatively considerable contribution to a significant cumulative effect relating to substantial alteration of the existing drainage pattern of the site or area in a manner that would: (i) Result in substantial erosion or siltation on- or off-site, (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows.
Land Use and Planning					
The Project would cause no impact related to physical division of an established community. 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.	**Overall: = (same as the Project)** • No impact (same as the Project) because if the No Project Alternative were to be implemented, then none of the proposed Project-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. • No impact (same as the Project) because no 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.	**Overall: = (same as the Project)** • No impact (same as the Project). Because Alternative 1 would be developed on a subset of the Project site, Project-related use in that location would not physically divide an established community or hinder existing community access. • No impact (same as the Project). Because Alternative 1 would be developed on a subset of the Project site, Project-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.	**Overall: = (same as the Project)** • No impact (same as the Project). Because Alternative 2 would involve the same components and operation as the Project but with reduced ground surface disturbance, Project-related use in that location would not physically divide an established community or hinder existing community access. • No impact (same as the Project). Alternative 2 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.	**Overall: = (same as the Project)** • No impact (same as the Project) because if Alternative 3 were to be implemented, none of the proposed Project-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 Alternative 3 would create no impact on established communities. • No impact (same as the Project) because no 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.	**Overall: = (same as the Project)** • No impact (same as the Project). Because Alternative 4 would be developed 2 miles east on an agricultural field surrounded by agricultural uses, Project-related use in that location would not physically divide an established community or hinder existing community access. • No impact (same as the Project). Because Alternative 4 would be developed on an existing agricultural field, Project-related use in this 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.

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Mineral Resources					
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. 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.	**Overall: = (same as the Project)** • No impact (same as the Project) because no Project-related development or ground disturbance would occur that could affect the availability of a known mineral resource. • No impact (same as the Project) because no Project-related development or ground disturbance would occur that could affect the availability of a known mineral resource recovery site.	**Overall: = (same as the Project)** • 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. • No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 1 site.	**Overall: = (same as the Project)** • 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. • No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 2 site.	**Overall: = (same as the Project)** • No impact (same as the Project) because no Project-related development or ground disturbance would occur that could affect the availability of a known mineral resource. • No impact (same as the Project) because no Project-related development or ground disturbance would occur that could affect the availability of a known mineral resource recovery site.	**Overall: = (same as the Project)** • No impact (same as the Project) because there are no known mineral resources within the Alternative 4 site that would be of value to the region and the residents of the state. • No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 4 site.
Noise and Acoustics					
Impact 3.14-1: LTS. Project could generate temporary and permanent noise that would not exceed standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria. **Impact 3.14-3:** LTS. The Project could expose people and/or structures to vibration levels. The Project would not be 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, and so no impact would result. **Impact 3.14-1c:** LTS. The Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the generation of temporary or permanent noise in excess of standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria. **Impact 3.14-3c**: LTS. The Project would not cause or make a cumulatively considerable contribution to a significant cumulative effect regarding the exposure of people and/or structures to vibration levels.	**Overall: less than the Project** • **Impact 3.14-1:** No Impact (less than the Project) because no Project-related construction equipment or activities would occur on the Project site that could increase ambient noise levels. • **Impact 3.14-3:** No Impact (less than the Project) because no Project-related equipment or activities would occur on the Project site that could expose people or structures to vibration. • **Impacts 3.14-1c–3c:** No Impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative noise or vibration conditions.	**Overall: similar to but less than the Project** • **Impact 3.14-1:** LTS (similar but less than the Project). Alternative 1 would reduce the construction period from 18 months to 10 months. Alternative 1 would generate less temporary and permanent noise and, like the Project, would not exceed standards presented in the Fresno County General Plan, Fresno County Noise Ordinances, or the Federal Transit Administration noise criteria • **Impact 3.14-3:** LTS (similar but less than the Project) because, although Alternative 1 could cause some vibration, it would not expose people or structures to excessive vibration levels. • **Impacts 3.14-1c–3c:** 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.	**Overall: greater than the Project** • **Impact 3.14-1:** LTS (greater than the Project). Alternative 2 would reduce surface disturbance but would increase construction noise from construction of the GIS, and would therefore result in slightly more significant noise impacts than the Project. • **Impact 3.14-3:** LTS (greater as the Project) because Alternative 2's increased construction activities would result in slightly more significant vibration impacts than the Project. • **Impacts 3.14-1c–3c:** LTS (greater than the Project) because Alternative 2 would result in a slightly higher incremental contributions to cumulative noise or vibration conditions compared to the Project.	**Overall: less than the Project** • **Impact 3.14-1:** No Impact (less than the Project) because no Project-related construction equipment or activities would occur on the Project site that could increase ambient noise levels. • **Impact 3.14-3:** No Impact (less than the Project) because no Project-related equipment or activities would occur on the Project site that could expose people or structures to vibration. • **Impacts 3.14-1c–3c:** No Impact (less than the Project) because Alternative 3 would not contribute any incremental impact to cumulative noise or vibration conditions.	**Overall: less than the Project** • **Impact 3.14-1:** LTS (less than the Project). Alternative 4 would develop the Project on another location approximately 2 miles east of the nearest residence. Alternative 4 would result in a decrease in the noise levels at the nearest sensitive receptor and therefore would result in a less significant noise impact than the Project • **Impact 3.14-3:** LTS (less than the Project). Although Alternative 4 could cause some vibration, the vibration would occur further away from the nearest resident and therefore would result in a less significant noise impact than the Project. • **Impacts 3.14-1c–3c:** LTS (less than the Project) because Alternative 4 would result in the same incremental contribution to cumulative noise or vibration conditions compared to the Project.
Population and Housing					
The Project would not induce substantial unplanned population growth in an area, either directly or indirectly. The Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	**Overall: = (same as the Project)** • No impact (same as the Project) because no Project-related 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. • No impact (same as the Project) because the No Project Alternative would not displace substantial numbers of existing people or housing.	**Overall: = (same as the Project)** • No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, *Population and Housing*, Alternative 1 would not induce substantial unplanned population growth in the study area. • No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, *Population and Housing*, Alternative 1 would not displace substantial numbers of existing people or housing.	**Overall: = (same as the Project)** • No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, *Population and Housing*, Alternative 2 would not induce substantial unplanned population growth in the study area. • No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, *Population and Housing*, Alternative 2 would not displace substantial numbers of existing people or housing.	**Overall: = (same as the Project)** • No impact (same as the Project) because no Project-related 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. • No impact (same as the Project) because Alternative 3 would not displace substantial numbers of existing people or housing.	**Overall: = (same as the Project)** • No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, *Population and Housing*, Alternative 4 would not induce substantial unplanned population growth in the study area. • No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, *Population and Housing*, Alternative 4 would not displace substantial numbers of existing people or housing.

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Public Services					
The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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.	**Overall: = (same as the Project)** 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.	**Overall: = (same as the Project)** No impact (same as the Project). If Alternative 1 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.	**Overall: = (same as the Project)** 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.	**Overall: = (same as the Project)** No impact (same as the Project). If Alternative 3 were implemented, no increase in the baseline level of demand for public services would be generated by on-site activities.	**Overall: = (same as the Project)** No impact (same as the Project). If Alternative 4 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.
Recreation					
The Project would have no impact on 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. The Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	**Overall: = (same as the Project)** • 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. • No impact (same as the Project) because the No Impact 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.	**Overall: = (same as the Project)** • 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. • No impact (same as the Project) because Alternative 1 would not result in population growth and would not affect the 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.	**Overall: = (same as the Project)** • 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. • No impact (same as the Project) because Alternative 2 would not result in population growth and would not affect the 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.	**Overall: = (same as the Project)** • No impact (same as the Project) because Alternative 3 would not increase the use of existing neighborhood and regional parks or other recreational facilities. • No impact (same as the Project) because Alternative 3 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.	**Overall: = (same as the Project)** • No impact (same as the Project) because for the same reasons as described for the Project, Alternative 4 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. • No impact (same as the Project) because Alternative 4 would not result in population growth and would not affect the 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.
Transportation					
The Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. **Impact 3.18-1:** LTS. The Project would generate vehicle miles traveled. **Impact 3.18-3:** LTS. The Project would not substantially increase hazards due to a geometric design feature or incompatible uses. **Impact 3.18-5:** LTS. The Project would not result in inadequate emergency access. **Impact 3.18-7:** LTS. The Project would not cause or contribute to a significant cumulative effect relating to the generation of vehicle miles traveled. **Impact 3.18-3c:** LTS. The Project would not cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses. **Impact 3.18-5c:** LTS. The Project would not cause or contribute to a significant cumulative effect due to inadequate emergency access.	**Overall: less than the Project** • **Impact 3.18-1:** No Impact (less than the Project) because no Project-related traffic would be generated that could generate vehicle miles traveled. • **Impact 3.18-3:** No Impact (less than the Project) because no Project-related traffic would be generated that could increase hazards due to a geometric design feature or incompatible uses. • **Impact 3.18-5:** No Impact (less than the Project) because no Project-related traffic would be generated that could result in inadequate emergency access. • **Impact 3.18-1c:** No Impact (less than the Project) because no Project-related traffic would be generated that could cause or contribute to any significant cumulative effect on transportation. • **Impact 3.18-3c:** No Impact (less than the Project) because no Project-related traffic would be generated that could cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses. • **Impact 3.18-5c:** No Impact (less than the Project) because no Project-related	**Overall: similar but less than the Project** • **Impact 3.18-1:** LTS (similar but less than the Project). Alternative 1 would be approximately 55 percent of the size of the site as proposed. The construction duration would also be reduced for Alternative 1. 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. • **Impact 3.18-3:** 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. • **Impact 3.18-5:** LTS (same as the Project) because Alternative 1 could affect circulation but would not result in inadequate emergency access. • **Impact 3.18-1c:** LTS (similar but less than the Project) because Alternative 1 would contribute fewer vehicle trips to the cumulative condition. • **Impact 3.18-3c:** LTS. (less than the Project) because Alternative 1-related development would cause or contribute fewer significant	**Overall: = (same as the Project)** • **Impact 3.18-1:** LTS (same as the Project) because the same Project-related traffic would be generated that could generate vehicle miles traveled. • **Impact 3.18-3:** 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. • **Impact 3.18-5:** LTS (same as the Project) because Alternative 2 could affect circulation but would not result in inadequate emergency access. • **Impact 3.18-1c:** LTS (same as the Project) because Alternative 2 may contribute a slight increase in vehicle trips to the cumulative condition. • **Impact 3.18-3c:** LTS. (same as the Project) because Alternative 2-related development would cause or contribute similar significant cumulative effects and would result in the same hazards due to geometric design features or incompatible uses. • **Impact 3.18-5c:** LTS. (same as the Project) because Alternative 2-related development would cause or contribute the same	**Overall: similar but less than the Project** • **Impact 3.18-1:** LTS (same as the Project) because some Project-related traffic would be generated that could generate vehicle miles traveled. • **Impact 3.18-3:** No Impact (less than the Project) because no Project-related traffic would be generated that could increase hazards due to a geometric design feature or incompatible uses. • **Impact 3.18-5:** No Impact (less than the Project) because no Project-related traffic would be generated that could result in inadequate emergency access. • **Impact 3.18-1c:** LTS (same as the Project) because Alternative 3 would contribute fewer vehicle trips to the cumulative condition. • **Impact 3.18-3c:** No Impact (less than the Project) because no Project-related traffic would be generated that could cause or contribute to a significant cumulative effect due to a substantial increase in hazards due to geometric design features or incompatible uses. • **Impact 3.18-5c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a	**Overall: = (same as the Project)** • **Impact 3.18-1:** LTS (same as the Project) because the same Project-related traffic would be generated that could generate vehicle miles traveled. • **Impact 3.18-3:** LTS (same as the Project) because Alternative 4 would not cause a significant impact related to a substantial increase in hazards due to a geometric design feature or incompatible uses. • **Impact 3.18-5:** LTS (same as the Project) because Alternative 4 could affect circulation but would not result in inadequate emergency access. • **Impact 3.18-1c:** LTS (same as the Project) because Alternative 4 would contribute the same vehicle trips to the cumulative condition. • **Impact 3.18-3c:** LTS. (same as the Project) because Alternative 4-related development would cause or contribute similar significant cumulative effects and would result in the same hazards due to geometric design features or incompatible uses. • **Impact 3.18-5c:** LTS. (same as the Project) because Alternative 4-related development would cause or contribute the same

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	development would cause or contribute to a significant cumulative effect due to inadequate emergency access.	cumulative effects and would result in fewer hazards due to geometric design features or incompatible uses. • **Impact 3.18-5c:** LTS. (less than the Project) because Alternative 1-related development would cause or contribute fewer significant cumulative effects due to inadequate emergency access.	significant cumulative effects due to inadequate emergency access.	significant cumulative effect due to inadequate emergency access.	significant cumulative effects due to inadequate emergency access.
Utilities and Service Systems					
Impact 3.19-1: LTS. Project would require the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities which could cause environmental effects. There would be no impact associated with the construction or operation of new natural gas utilities. **Impact 3.19-3:** LTS. The Project's construction or operational water demand may exceed local or regional supplies. **Impact 3.19-4:** LTS. The Project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. **Impact 3.19-5:** LTS. The Project could generate 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. The Project would have no impact with respect to compliance with federal, state, and local management and reduction statutes and regulations related to solid waste. **Impact 3.19-1c:** LTS. The Project would not make a cumulatively considerable contribution to any significant impact regarding the construction or expansion of water, wastewater, stormwater, and electrical and telecommunications facilities, which could cause environmental effects. **Impact 3.19-3c:** LTS. The Project would not cause a cumulatively considerable impact due to construction or operational water demand that may exceed local or regional supplies. **Impact 3.19-4c:** LTS. The Project would not make a cumulatively considerable contribution to any cumulative effect regarding a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. **Impact 3.19-5c:** LTS. The Project would not make a cumulatively considerable contribution to a significant adverse cumulative effect regarding the generation of waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or regarding other impairment of the attainment of solid waste reduction goals.	**Overall: less than the Project** • **Impact 3.19-1:** No Impact (less than the Project) because no Project-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. • **Impact 3.19-3:** No Impact (less than the Project) because no Project-related water demand would be generated on the site. • **Impact 3.19-4:** No Impact (less than the Project) because no Project-related wastewater would be generated on-site that would require treatment. • **Impact 3.19-5:** No Impact (less than the Project) because no Project-related solid waste would be generated on-site that would require disposal. • **Impacts 3.19-1c—5c:** No Impact (less than the Project) because no Project-related utility or service system demand would be generated on-site that could cause or contribute to significant cumulative effects.	**Overall: similar to but less than the Project** • **Impact 3.19-1:** LTS (similar but less than the Project) because Alternative 1's limitation of Project-related development would incrementally reduce the resulting overall demand for utility and service system services that would cause significant environmental effects. • **Impact 3.19-3:** 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. • **Impact 3.19-4:** LTS (similar but less than the Project) because the reduction in wastewater generated by Project-related development would not result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project. • **Impact 3.19-5:** 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. • **Impacts 3.19-1c—5c:** 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 effect on utilities and service systems.	**Overall: similar to but less than the Project** • **Impact 3.19-1:** LTS (similar but less than the Project) because Alternative 2's slightly decreased surface disturbance compared to the Project would comparably reduce the resulting overall demand for utility and service system services that would cause significant environmental effects. • **Impact 3.19-3:** LTS (greater than the Project). Alternative 2 would require less ground disturbance, but construction of the GIS may slightly increase water demands compared to the proposed Project and would therefore have slightly more significant impacts on water demands. • **Impact 3.19-4:** LTS (similar but less than the Project) because the slight 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. • **Impact 3.19-5:** LTS (similar but less than the Project) because Alternative 2 would generate slightly less solid waste than 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. • **Impacts 3.19-1c—5c:** 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 effect on utilities and service systems.	**Overall: less than the Project** • **Impact 3.19-1:** No Impact (less than the Project) because no Project-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. • **Impact 3.19-3:** No Impact (less than the Project) because no Project-related water demand would be generated on the site. • **Impact 3.19-4:** No Impact (less than the Project) because no Project-related wastewater would be generated on-site that would require treatment. • **Impact 3.19-5:** No Impact (less than the Project) because no Project-related solid waste would be generated on-site that would require disposal. • **Impacts 3.19-1c—5c:** No Impact (less than the Project) because no Project-related utility or service system demand would be generated on-site that could cause or contribute to significant cumulative effects.	**Overall: = (same as the Project)** • **Impact 3.19-1:** LTS (same as the Project) because Alternative 4 would have a similar footprint of disturbance compared to the Project and thus would have the same overall demand for utility and service system services that would cause significant environmental effects. • **Impact 3.19-3:** LTS (same as the Project) because Alternative 4 would have a similar footprint of disturbance compared to the Project and thus would result in the same water demand. • **Impact 3.19-4:** LTS (same as the Project). Because a similar footprint would result from Alternative 4, the same amount of wastewater would be generated on-site that would require treatment. • **Impact 3.19-5:** LTS (same as the Project) because Alternative 4 would result in the same footprint as the Project and thus would generate the same amount of solid waste; Alternative 4 (like the Project) would not exceed state or local standards or the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals. • **Impacts 3.19-1c—5c:** LTS (same as the Project) because Alternative 4 would result in the same incremental contributions to cumulative conditions, and thus would not contribute to a significant adverse cumulative effect to utilities and service systems.

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*	Impacts of Alternative 3 Compared to the Project*	Impacts of Alternative 4 Compared to the Project*
Wildfire					
Impact 3.20-1: LTS. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. **Impact 3.20-3:** 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. **Impact 3.20-5:** 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. **Impact 3.20-1c:** LTS. The Project would not cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan. **Impact 3.20-3c:** LTS. The Project would not cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors. **Impact 3.20-5c:** LTS. The Project would not cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	**Overall: less than the Project** • **Impact 3.20-1:** No Impact (less than the Project) because no Project-related development would substantially impair an adopted emergency response plan or emergency evacuation plan. • **Impact 3.20-3:** No Impact (less than the Project) because no Project-related development would exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. • **Impact 3.20-5:** No Impact (less than the Project) because no Project-related installation and/or maintenance of fuel breaks, power lines, and other electrical utilities would occur on-site that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. • **Impact 3.20-1c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.20-3c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors. • **Impact 3.20-5c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	**Overall: = (same as than the Project)** • **Impact 3.20-1:** LTS (same as the Project) because the reduced Project size would not substantially impair an adopted emergency response plan or emergency evacuation plan. • **Impact 3.20-3:** 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. • **Impact 3.20-5:** 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. • **Impact 3.20-1c:** 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. • **Impact 3.20-3c:** 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. • **Impact 3.20-5c:** LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 1 would not contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	**Overall: = (same as than the Project)** • **Impact 3.20-1:** LTS (same as the Project) because although Alternative 2 would require slightly less surface disturbance as 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. • **Impact 3.20-3:** LTS (same as the Project) because Alternative 2 would involve slightly less surface disturbance than the Project 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. • **Impact 3.20-5:** 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. • **Impact 3.20-1c:** LTS (same as the Project) because Alternative 2 would disturb slightly less surface area than 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. • **Impact 3.20-3c:** 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. • **Impact 3.20-5c:** LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 2 would not contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	**Overall: less than the Project** • **Impact 3.20-1:** No Impact (less than the Project) because no Project-related development would substantially impair an adopted emergency response plan or emergency evacuation plan. • **Impact 3.20-3:** No Impact (less than the Project) because no Project-related development would exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. • **Impact 3.20-5:** No Impact (less than the Project) because no Project-related installation and/or maintenance of fuel breaks, power lines, and other electrical utilities would occur on-site that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. • **Impact 3.20-1c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant cumulative effect due to substantial impairment of an adopted emergency response plan or emergency evacuation plan. • **Impact 3.20-3c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant cumulative effect by exacerbating wildfire risks due to slope, prevailing winds, or other factors. • **Impact 3.20-5c:** No Impact (less than the Project) because no Project-related development would cause or contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.	**Overall: = (same as than the Project)** • **Impact 3.20-1:** LTS (same as the Project) because the alternative location would not substantially impair an adopted emergency response plan or emergency evacuation plan. • **Impact 3.20-3:** LTS (same as the Project) because Alternative 4 would be developed on a site similar to the proposed 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. • **Impact 3.20-5:** LTS (same as the Project) because Alternative 4 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 to the environment. • **Impact 3.20-1c:** LTS (same as the Project) because Alternative 4 would be developed on a similar site approximately 2 miles east of the proposed Project site and thus would be subject to similar site conditions that affect the risk of exposure of people or structures to significant site condition-related risks. • **Impact 3.20-3c:** LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 4 would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact. • **Impact 3.20-5c:** LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 4 would not contribute to a significant adverse cumulative effect due to roads, power lines, or other utilities the installation or maintenance of which could exacerbate fire risk or result in temporary or ongoing impacts to the environment.

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

SOURCE: Data compiled by Environmental Science Associates in 2025

4.6 References

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NREL (National Renewable Energy Laboratory), 2020. Wind Resource Database – WIND Toolkit Long-Term Ensemble Dataset 60-minute Wind Speed at 100 Meters above Surface Level. Available: https://wrdb.nrel.gov/data-viewer. Accessed April 29, 2025.

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CHAPTER 5
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 implementing the Project.

(3) Growth-inducing impacts of the Project.

5.2 Significant Unavoidable Impacts

CEQA Guidelines Section 15126.2(b) requires an EIR to describe any significant impacts that cannot be avoided. As analyzed in Chapter 3, *Environmental Impacts of the Project*, and Chapter 4, *Alternatives*, neither the Project (including the Rosemary Project and PG&E Project) nor alternatives would cause a significant and unavoidable CEQA impact. More specifically, the Rosemary Project would cause no significant unavoidable environmental impacts on any of the resource considerations analyzed in this EIR and neither would the PG&E Project.

5.3 Growth Inducement

CEQA Guidelines Section 15126.2(d) provides the following guidance regarding growth-inducing impacts:

> *A project is identified as growth-inducing if it would foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.*

Growth 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 at the peak of construction, the Rosemary Project would require up to approximately 204 on-site personnel and the PG&E Project would require up to 30 workers at various locations along the alignment. The existing construction labor pool in Fresno County is sufficient for meeting Project needs.[1]

[1] According to the State of California's Employment Development Department's Labor Market Information Division, "The unemployment rate in Fresno County was 7.7 percent in November 2024, up from a revised 7.3 percent in October 2024, and unchanged the year-ago estimate of 7.7 percent. This compares with an unadjusted unemployment rate of 5.3 percent for California and 4.0 percent for the nation during the same period." (California Employment Development Department 2024).

Following construction, the Project would require up to eight full-time personnel for the Rosemary Project; no net new personnel would be needed to operate and maintain the PG&E Project. The decommissioning and site restoration activities on the Rosemary Project site would require a workforce similar to or less than what was needed for construction; the PG&E Project is not expected to be decommissioned. Because construction and decommissioning are temporary, the Project as a whole 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 workers would commute to the Project site from within the local area, including from Fresno, Madera, Hanford, and other areas within 50 miles of 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, unplanned construction, and the County is actively involved in a countywide housing issues and needs assessment and planning process to address housing needs at a regional level.[2] Therefore, the Project is not expected to induce unplanned population growth, the housing and provision of services for which could cause significant adverse environmental impacts.

Although the Project would contribute to the energy supply, which supports growth, 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.

5.4 Significant Irreversible Changes

The CEQA Guidelines require an EIR to address potential significant irreversible changes that would result from implementing a project. According to CEQA Guidelines Section 15126.2(d), such a change would involve one or more of the following scenarios:

(1) A change in land use that commits future generations to similar uses,

(2) Irreversible damage from environmental accidents, or

(3) A large commitment of nonrenewable resources.

The Project proposes no change to General Plan land use or zoning code designations. If approved, the Rosemary Project would be decommissioned and the site restored at the conclusion of the CUP period and the PG&E Project would continue to be used (as it is under baseline conditions) as a contributing component of the regional power grid. Future generations would not be committed to any particular land use as a result of the Project that is different from baseline conditions.

The Project would not result in irreversible damage from environmental accidents. For example, as analyzed in the context of criterion b) in Section 3.10, *Hazards and Hazardous Materials*, Project approval would not create a significant hazard to the public or the environment through reasonably foreseeable

[2] The Fresno County General Plan's Housing Element identifies the number of housing units that the County expects to be constructed based on general market conditions during the time frame of the Housing Element. The County adopted its Multi-Jurisdictional Fifth-Cycle Housing Element Update on March 15, 2016; a public review draft of the sixth cycle update was released in December 2024 (Fresno County 2024).

upset or accident conditions involving the release of hazardous materials or waste into the environment. The Project would comply with independently enforceable federal, state, and local laws governing the transportation, storage, use, and cleanup of hazardous materials and wastes, which would prevent any accidental release from causing irreversible environmental damage.

The Project would not result in a large commitment of nonrenewable resources. Buildout of the Project would commit nonrenewable resources during Project construction and ongoing utility services during Project operations. During operations, limited amounts of oil, gas, and other fossil fuels and nonrenewable resources would be consumed and irreversible commitments of small quantities of nonrenewable resources would occur as a result of operations for the duration of the CUP term. These commitments would not be large and, once operational, the Rosemary Project would result in a substantial net benefit associated with the amount of renewable energy that would be generated and the PG&E Project would result in enhanced safety and reliability of electrical service to PG&E customers.

5.5 References

California Employment Development Department. 2024. Fresno Metropolitan Statistical Area (MSA) (Fresno County). December 20, 2024.

Fresno County. 2024. Planning Commission Staff Report Agenda Item No. 2. December 12, 2024.

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CHAPTER 6
Report Preparation

6.1 Lead Agency

Fresno County Department of Public Works and Planning

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David Randall, Senior Planner
Tawanda Mtunga, Principal Planner

6.2 Consultant

Environmental Science Associates

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San José, CA 95110

Janna Scott, J.D.	Project Manager; Overall Quality Assurance/Quality Control; Introduction, Introduction to Environmental Analysis, Alternatives
Ryan Carew	Deputy Project Manager; Section Author: Executive Summary, Hazards and Hazardous Materials, Public Services, Other CEQA Considerations
Savannah Battista, M.S.	Energy; Geology, Soils, and Paleontological Resources; Greenhouse Gas Emissions; Minerals
Michael Burns, C.H.G, C.E.G, P.G	Geology, Soils, and Paleontological Resources; Hazards and Hazardous Materials; Hydrology and Water Quality; Minerals
Madison Castelazo	Air Quality
James Cobb	Noise
Dave Davis, M.S.	Aesthetics
Matthew Fagundes	Air Quality, Energy, Greenhouse Gas Emissions, Noise
Jill Feyk-Miney	Agriculture and Forestry Resources
Ryan Gilmore	Wildfire
Marisol Guzman	Aesthetics, Land Use and Planning, Transportation
Kendra Hartmann	Alternatives; Executive Summary

Maria Hensel	Project Description, Hydrology and Water Quality, Utilities and Service Systems
Heidi Koenig, RPA	Cultural and Tribal Cultural Resources
Brian Pittman, M.S., CWB	Biological Resources
Liza Ryan, M.S.	Biological Resources
Chris Sanchez	Noise
Rosalind Searle	Agriculture and Forestry Resources, Population and Housing, Recreation, Wildfire
Ashleigh Sims, M.A., RPA	Cultural and Tribal Cultural Resources
Jon Teofilo	Transportation
Selena Whitney	Land Use and Planning, Population and Housing, Public Services, Recreation, Utilities and Service Systems

6.3 Entities Consulted and Recipients of the Draft EIR

Fresno County Department of Public Works and Planning

Longroad Energy, LLC

Laren Cyphers
Ashley Groeneveld
Emily McCrorie

Federal Agencies

NAVFACSW Intergovernmental Branch
United States Army Corp of Engineers, Sacramento District
United States Department of Agriculture, Natural Resources Conservation Service
United States Department of Interior, Fish and Wildlife Services – Endangered Species Div.
United States 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 Fish and Wildlife, Central Region
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 Substance Control
California Highway Patrol
California Native American Heritage Commission
California Public Utilities Commission
California Regional Water Quality Control Board, Region 5

State Office of Historic Preservation, Department of Parks and Recreation
State of California Reclamation Board
State Water Resources Control Board, Division of Drinking Water

Regional and Local Agencies

Central Valley Flood Protection Board
City of Huron
City of Kerman, Community Development Department
City of Mendota, Planning and Community Development
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
San Joaquin Valley Air Pollution Control District
Southern San Joaquin Valley Archaeological Info Center
Tranquillity Irrigation District
Tranquillity Resource Conservation District
Westlands Water District
Westlands Water District (Westside Subbasin GSA)
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
Defenders of Wildlife, California Program Office
Downey Brand LLP
Laborers Intl Union of N. America, Local Union 294
Lozeau Drury, LLP
Pacific Gas and Electric Company
Property Owners within 0.5 mile of the Project site (owners' names and addresses on file at the County)

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