CALIFORNIA PUBLIC UTILITIES COMMISSION

Estrella Substation and Paso Robles Area Reinforcement Project

Recirculated Draft Environmental Impact Report

Prepared by:

Horizon WATER and ENVIRONMENT

November 2021

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California Public Utilities Commission

Estrella Substation and Paso Robles Area Reinforcement Project

Recirculated Portions of the Draft Environmental Impact Report

SCH #2018072071

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Acronyms and Abbreviations

A

AAQS	Ambient Air Quality Standard
AB	Assembly Bill
Adams Broadwell	Adams Broadwell Joseph & Cardozo
AEDT	Aviation Environmental Design Tool
AIDS	acquired immunodeficiency syndrome
AIFI	average frequency of sustained outages
APCD	Air Pollution Control District
APM	applicant proposed measure
Applicants	Pacific Gas & Electric Company and Horizon West Transmission collectively
ATCM	Airborne Toxic Control Measure

B

BACT	best available control technology
BES	single bulk electric system
BESS	battery energy storage system
BTM	behind-the-meter

C

CAA	federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CCAA	California Clean Air Act
CCR	California Code of Regulations
CalEEMod	California Emission Estimator Model
Cal/OSHA	California Occupational Safety and Health Administration
CAMP	Construction Activity Management Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASIO	California Independent System Operator
CB	circuit breaker
CDC	U.S Centers for Disease Control
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CDPR	California Department of Pesticide Regulation
CDOC	California Department of Conservation

CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CI	*Coccidioides immitis*
City	City of Paso Robles
CNG	compressed natural gas
CO	carbon monoxide
County	County of San Luis Obispo
CPF	Cancer Potency Factors
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CURE	California Unions for Reliable Energy
cy	cubic yard

D

DEIR	draft environmental impact report
DER	distributed energy resource
DHS	California Department of Health Services
DIDF	Distribution Infrastructure Deferral Framework
DNA	Deoxyribonucleic acid
DPA	distribution planning area
DPM	diesel particulate matter

E

EIR	environmental impact report
ELF	extremely low frequency
EMF	electromagnetic field
EMFAC	EMission FACtors
EDMS	Emissions and Dispersion Modeling System

F

FAA	Federal Aviation Administration
FEIR	final environmental impact report
FMMP	Farmland Mapping and Monitoring Program
FTM	front-of-the-meter

G

GHG	greenhouse gas
gigahertz	a billion hertz
GIS	Geographic Information System
G.O.	[CPUC] General Order

H

H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HDD	horizontal directional drilling
HIV	human immunodeficiency virus
HRA	Human Risk Assessment
HWT	Horizon West Transmission, LLC
Hz	Hertz

I

IARC	International Agency for Research on Cancer
ICAO	International Civil Aviation Organization

K

kV	kilovolt
kV/m	kilovolt per meter

L

LACPH	Los Angeles County Public Health
lbs	pounds
LDSP	light-duty steel pole
LED	light-emitting diode
LNG	liquefied natural gas
LST	lattice steel tower
LTO	landing take off

M

MAIFI	average frequency of momentary outages
mG	milligauss
MRV	minor route variation
MVA	megavolt amperes
MW	megawatt

N

NAA	nonattainment area
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NASS	National Agricultural Statistics Service
NEET West	Horizon West Transmission, LLC formerly NextEra Energy Transmission West, LLC

NERC	National Electric Reliability Commission
NESC	National Electric Safety Code
NHTSA	National Highway Traffic Safety Administration
NIEHS	National Institute of Environmental Health Sciences
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NOA	notice of availability

O

O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPGW	optical ground wire
OPR	Governor's Office of Planning and Research

P

PEA	Proponent's Environmental Assessment
PERP	Portable Equipment Registration Program
PG&E	Pacific Gas and Electric Company
PLR	Power Line Route
PM	particulate matter
PM_{10}	PM with aerodynamic radius of 10 micrometers or less
$PM_{2.5}$	PM with aerodynamic radius of 2.5 micrometers or less
POTT	permissive overreaching transfer tip
ppm	parts per million
PRC	Public Resource Code
Proposed Project	proposed Estrella Substation and Paso Robles Area Reinforcement Project
PST	pacific standard time
PVC	polyvinyl chloride

Q

Qoa	older alluvium map designation
Qtp	Paso Robles formation map designation

R

RA	Residential Agriculture (zone)
RCO	regenerative catalytic oxidizer
RDEIR	Recirculated draft environmental impact report
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board

S

SAFE	Safer Affordable Fuel-Efficient
SCADA	supervisory control and data acquisition
SEL	Schweitzer Engineering Laboratories
SF_6	sulfur hexafluoride
SIP	state implementation plan
SLOCAPCD	San Luis Obispo County Air Pollution Control District
SO_2	sulfur dioxide
SR	state route

T

TAC	toxic air contaminants
TSP	tubular steel pole

U

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UVLS	under-voltage load shedding

V

VFMP	Valley Fever Management Plan
VOC	volatile organic compound

W

WEAP	worker environmental awareness program
WIFI	wireless
Williamson Act	California Land Conservation Act of 1965
WHO	World Health Organization
WMP	wildfire mitigation plan

Z

ZEV	Zero Emission Vehicle

SYMBOLS

$\mu g/m^3$	micrograms per cubic meter

Chapter 1
Introduction to the Recirculated Portions of the Draft Environmental Impact Report

The California Public Utilities Commission (CPUC) is recirculating portions of the Draft Environmental Impact Report (DEIR) prepared for the Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project) proposed by Pacific Gas & Electric Company (PG&E) and Horizon West Transmission (HWT) (formerly known as NextEra Energy Transmission West, LLC) (collectively referred to as the "Applicants"). The DEIR was originally circulated for public review on December 8, 2020 and the public review and comment period lasted until February 22, 2021. CPUC received a large number of public comments on the DEIR, including a comment letter from HWT (one of the Applicants) identifying substantive changes to the Proposed Project. CPUC also received comments from Adams Broadwell Joseph & Cardozo (Adams Broadwell), on behalf of California Unions for Reliable Energy (CURE), raising concerns regarding the DEIR's air quality analysis, as well as comments from PG&E. These comments are described in detail in Section 1.1.

In accordance with Section 15088.5 of the California Environmental Quality Act (CEQA) Guidelines, CPUC has determined that the new information brought to light by HWT, Adams Broadwell, and PG&E merits recirculation of portions of the DEIR. Specifically, the following portions of the DEIR are being recirculated:

- Chapter 2, Project Description
- Section 4.2, "Agricultural Resources"
- Section 4.3, "Air Quality"

The recirculated portions of the DEIR are presented in underline/strikeout (to indicate additions and deletions) so that readers can see what is being changed from the original DEIR. This Introduction chapter provides background on the comments received and the reasons for the recirculation; as well as public review of the recirculated DEIR and the CEQA process going forward. The recirculated portions of the DEIR then follow.

The recirculated portions of the DEIR will be circulated for 55 days until January 12, 2022. The CPUC requests that reviewers limit their comments to the revised portions of the DEIR. After reviewing these comments, the CPUC will prepare a final environmental impact report (FEIR). The FEIR will respond to (i) comments received during the initial circulation period that relate to portions of the DEIR that were not recirculated, and (ii) comments received during the recirculation period that relate to portions of the DEIR that were revised and recirculated. The FEIR will not include responses to comments received during the initial comment circulation period that relate to those portions of the DEIR that are being recirculated now.

1.1 Comments Received on the Draft Environmental Impact Report

CPUC received a total of 129 letters during the public review period for the DEIR. Letters were submitted by state elected representatives and local agencies; additional stakeholders, such as the Proposed Project Applicants, homeowners associations, law firms representing a union labor group and a local business, and environmental organizations; and individual members of the public. No federal agencies submitted comments on the DEIR. As noted above, two comment letters, in particular, raised new information that CPUC determined warranted recirculation of portions of the DEIR. These comments, as they relate to the recirculation[1], are discussed further below.

1.1.1 Horizon West Transmission, LLC

Original Comment Letter

In its original comments on the DEIR, HWT identified a number of changes to the Proposed Project, which affected resources evaluated in the DEIR. Specifically, HWT indicated that the proposed Estrella Substation site was increasing in size from 15 acres (as reported in the DEIR) to 20 acres (HWT 2021a). HWT included a revised Project Description incorporating this change along with a revised substation layout figure (moving facilities closer to Union Road, among other changes). In its original comments, HWT stated that "Horizon West will acquire an additional five acres as part of the Estrella Substation Site…Adding five acres necessitated a design change to the Estrella Substation to reorient it to allow access to the five-acre addition" (HWT 2021a: page 3). Attachment 1 to the letter, which was a memorandum discussing what HWT referred to as the Minor Project Refinement, stated that the additional five-acre area would be used for "industrial activities", resulting in a permanent impact to this additional area, which is classified as Unique Farmland (HWT 2021a: Attachment 1, page 2).

The original HWT comment letter, specifically the revised Project Description (included as Attachment 2 to the letter) ("tracked changes" versions of the revisions were provided in Attachment 3, Detailed Comment Table), identified a number of other changes to the Proposed Project. These included, but were not limited to:

- Increasing the length of the paved access road at the substation up to the second entrance to the 70 kilovolt (kV) substation from 15 feet to 700 feet;
- Changing the height of the substation's chain-link fence from "approximately 7-foot-tall" to "a minimum of 7 feet tall";

[1] Only the portions of the comment letters relating to the new information that is resulting in recirculation are summarized and discussed in this section. The letters in their entirety are provided on the Project website and will be bracketed and responded to as part of the FEIR for the Proposed Project.

- Increasing the estimate for the amount of cut and fill required for substation construction from 50,000 cubic yards to 68,000 cubic yards, not including an additional 16,500 cubic yards of topsoil that would be stripped and stockpiled (with 4,000 cubic yards of this amount to be reused during restoration activities);

- Changing the estimated temporary disturbance area during construction of the Estrella Substation from 6.20 acres to 0.09 acres; and

- Increasing the length of the main substation access road from 1,100 feet long to 1,700 feet long.

Additionally, although not indicated in the revised Project Description, HWT indicated in its Minor Project Refinement Memorandum (Attachment 1) that the Proposed Project changes would extend construction activities at the substation by one week (HWT 2021a: Attachment 1, page 1).

Revised Comment Letter and Response to Data Request No. 6

Based on coordination with CPUC regarding the identified changes to the Proposed Project and in response to CPUC's Data Request No. 6 (CPUC 2021) (which requested clarification on a number of the changes), HWT subsequently revised its original comments on the DEIR. Both HWT's original comment letter (HWT 2021a) and its revised letter, included in its response to Data Request #6 (see Attachment D, Errata to the Cover Letter to HWT's DEIR Comments) (HWT 2021b), are included in Appendix A to this recirculated DEIR. HWT's redline revisions to its original comment letter clarified that the additional five acres being acquired by HWT would not be part of the Estrella Substation "site," but merely the substation "parcel" (HWT 2021b: Attachment D, page 1 and 3).

HWT clarified in its revised comments that the design change to the substation was unrelated to the addition of the five acres to the parcel and was instead necessitated by information identified through the engineering process and discussions with the landowner, which required slight adjustments to the substation parcel boundary (HWT 2021b: Attachment D, page 4). Specifically, the revised comment letter stated that: "the parcel boundary was adjusted to avoid encroachment on the adjacent vineyard access road (to allow continued access to that road by the landowner) and to avoid encroachment on the 230 kV transmission line right-of-way" (HWT 2021b: Attachment D, page 4). Therefore, HWT explained, a design change to the substation was required to reorient it to align with the adjusted parcel boundary.

Regarding the use of the additional 5-acre portion of the substation parcel, in its response to Data Request No. 6, HWT stated (HWT 2021b: page A-1):

> "The additional 5 acres were acquired as part of property owner negotiations. These 5 acres will not be used during or following construction for any project activities, and HWT is not asking for any CPUC approval or authorization to utilize these 5 acres for any new or different use.
>
> The additional 5 acres will be separated from the substation site by a steep, approximately 17-foot elevation change, and HWT does not intend to use these 5 acres as part of the project or for any other utility use services. These additional 5 acres will

remain available for continued agricultural use. HWT has initiated conversations with the current landowner for continued farming of these additional 5 acres."

HWT confirmed and/or clarified the changes to the Project Description identified in HWT's original comment letter on the DEIR in response to CPUC's questions and data request; refer to the response to Data Request No. 6 (HWT 2021b; included in Appendix A to this recirculated DEIR) for detailed information. Notably, HWT confirmed that the revisions to the Proposed Project would extend rough grading of the substation by 1 week, but would not extend the total 230 kV substation construction schedule of 7 months (HWT 2021b: page A-2). Additionally, HWT confirmed that the cut and fill estimate for the proposed substation would increase from 50,000 cubic yards to 68,000 cubic yards (balanced on the site to the extent feasible), which would not include an additional 16,500 cubic yards of topsoil that would be stripped and stockpiled (HWT 2021b: page B-1). HWT also clarified that the substation access road would not be increasing from 15 feet to 700 feet, but rather would be decreasing from 715 feet to 700 feet (the confusion on this point appears to have been the result of a typo in HWT's original DEIR comment letter, Attachment 3).

Follow-up with California Public Utilities Commission Subsequent to the Response to Data Request No. 6

After HWT submitted its response to Data Request No. 6, CPUC coordinated a conference call with HWT and PG&E to clarify some additional points. Specifically, with respect to the substation fence height, HWT and PG&E clarified that 12 feet (comprised of a 10-foot-tall fence plus 1.5 feet of barbed wire plus a buffer amount of 0.5 feet) would be a reasonable maximum (i.e., worst-case scenario) height. The Applicants stated that the change to a "minimum of 7 feet tall" was due to differences between HWT's and PG&E's standards regarding fence height and uncertainty as to whether the fence height at the 230 kV substation (to be operated by HWT) would match PG&E's standards. Nevertheless, both applicants agreed that a reasonable maximum fence height could be established and included in the Project Description. Additionally, the Applicants confirmed that the additional 5 acres would no longer qualify as Williamson Act land (Mora, pers. comm. 2021).

1.1.2 Adams Broadwell Joseph & Cardozo

In its comments on the DEIR, Adams Broadwell raised a number of alleged issues with the DEIR's analysis, including that the DEIR failed to properly analyze potential impacts to human health from the Proposed Project's construction air pollutant emissions and from Valley Fever (Coccidioidomycosis). Specifically, Adams Broadwell argued that the DEIR is deficient because it does not include a Health Risk Assessment (HRA) (Adams Broadwell 2021: page 49). The DEIR's determination that "Project construction-related diesel particulate matter and other [toxic air contaminant] TAC emissions would not be of a magnitude and duration great enough to result in significant air toxic risks to exposed sensitive receptors," Adams Broadwell argued, is not supported by substantial evidence because no quantitative HRA was conducted. In its comments, Adams Broadwell pointed to the Office of Environmental Health Hazard Assessment's (OEHHA) guidance manual for conducting HRAs, stating that the OEHHA guidance recommends a formal HRA for construction exposures lasting longer than 2 months (Adams Broadwell 2021: page 48).

As part of its comment letter, Adams Broadwell summarized and cited a commentary by Dr. Phyllis Fox (Exhibit A). Dr. Fox's document summarizes the results of a HRA for the construction impacts from the Proposed Project prepared by Ray Kapahi at Environmental Permitting Specialists (see the document, included in Appendix A). This HRA stated "that cancer and acute health impacts from diesel [sic] [diesel particulate matter] DPM would be significant for on-site construction workers and nearby residents and other sensitive receptors" (Adams Broadwell 2021: page 49). Specifically, the HRA discussed two scenarios (one in which Tier 4 Final engines are used [Scenario #1], and one in which Tier 2 engines are used [Scenario #2]) (Environmental Permitting Specialists 2021). Under Scenario #1, the HRA stated that cancer risks exceeded the threshold used for the analysis (10 cancers per million) in the area of Estrella Substation (see Figure 4-1 in Environmental Permitting Specialists 2021). Under Scenario #2, the HRA stated that cancer risks exceeded the threshold in proximity to Estrella Substation and along the new 70 kV power line route and reconductoring segment (see Figure 4-2 in Environmental Permitting Specialists 2021).

Information provided by Adams Broadwell and their consultants was not adequate to conduct a thorough review to determine if this model accurately represents the Proposed Project. Specifically, the information did not include key details regarding the specific sources spatial representation and actual emissions assigned to specific sources. Such information would be necessary for the HRA to be reproducible in accordance with OEHHA guidance on HRAs.

Adams Broadwell also summarized comments and recommendations from Dr. Fox regarding the risk to human health from Valley Fever. Dr. Fox argued that the DEIR did not adequately analyze and mitigate the risk from Valley Fever, as the Valley Fever spores could be transported in fugitive dust generated by Proposed Project construction over long distances, thereby exposing sensitive receptors potentially hundreds of miles away. To mitigate the risk from Valley Fever, Dr. Fox recommended including various additional fugitive dust mitigation measures from the South Coast Air Quality Management District (Adams Broadwell 2021: page 60-61). Dr. Fox also recommended including numerous additional measures to limit the exposure of construction workers to Valley Fever spores during the Proposed Project construction activities (Adams Broadwell 2021: page 61). Adams Broadwell and Dr. Fox alleged that the measures included in the DEIR to minimize fugitive dust (Applicant Proposed Measure [APM] AIR-3) are not enforceable and would not be effective in reducing fugitive dust such as to reduce the risk from Valley Fever.

1.1.3 Pacific Gas & Electric Company

In its comments on the DEIR, PG&E identified a number of revisions to language in the Project Description. Additionally, PG&E noted that the San Luis Obispo County Geographic Information System (GIS) viewer shows the Bonel Ranch Substation Site (Alternative SS-1) to be under a Williamson Act contract (whereas the DEIR indicated it was not under contract). Thus, PG&E recommended that the impact conclusion under Impact AG-2 for Alternative SS-1 be changed to significant and unavoidable.

1.2 Reasoning for Recirculating Portions of the Draft Environmental Impact Report

1.2.1 Relevant CEQA Guidelines Sections

Under Section 15088.5 of the CEQA Guidelines, "A lead agency is required to recirculate an environmental impact report (EIR) when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification" (Section 15088.5[a]). Section 15088.5(a) of the CEQA Guidelines provides the following examples of "significant new information" requiring recirculation:

1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

4) The draft EIR was so fundamentally flawed and basically inadequate and conclusory in nature that meaningful public review and comment were precluded (*Mountain Lion Coalition v. Fish and Game Com.* (1989) 214 Cal.App. 3d 1043).

Section 15088.5(b) clarifies that "Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." Finally, Section 15088.5(c) states that "If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified."

1.2.2 New Information Provided by Horizon West Transmission, LLC

In reviewing the Proposed Project changes identified by HWT (see summary in Section 1.1.1), CPUC determined that one of these changes could substantially increase the severity of a significant impact identified in the DEIR. Specifically, the addition of the 5-acre area as part of the Estrella Substation parcel could substantially increase the severity of the Proposed Project's effects on agricultural resources. Figure 1-1 shows a comparison of the Estrella Substation parcel boundary, as described in the DEIR, to the new substation parcel boundary identified in HWT's comments on the DEIR.

As background, the DEIR found that the Proposed Project would significantly impact agricultural resources due to the permanent conversion of 11.76 acres of Unique Farmland and 2.66 acres of Farmland of Statewide Importance (almost all of which would be converted due to the substation construction) (DEIR: page 4.2-12). Although the DEIR would require implementation of Mitigation Measure AG-1: "Provide Compensation for Loss of Agricultural Land", which would require contribution of funds to support conservation of agricultural land in San Luis Obispo County, the DEIR found that this mitigation measure would not fully offset the significant impact

because it would not create any new Important Farmland (DEIR: page 4.2-13). As a result, the DEIR found the Proposed Project's impacts under Impact AG-1 (Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use) to be significant and unavoidable.

Further, the DEIR found that two of the Power Line Route (PLR) alternatives (Alternative PLR-1A: Estrella Route to Estrella Substation and Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1) would have significant and unavoidable impacts on Important Farmland even though these alternatives would each convert less than 5 total acres of Important Farmland (DEIR: page 4.2-18 and 4.2-19). In other words, the DEIR applied a standard that any amount of permanent conversion of Important Farmland as a result of project or alternative components would constitute a significant impact. Additionally, as noted above, the DEIR concluded that contribution of funds to support conservation of agricultural land (per Mitigation Measure AG-1) would not reduce the significance of the impacts to less than significant.

As such, assuming that the additional 5-acre area acquired by HWT could be impacted (as stated in HWT's original comment letter), this would constitute a substantial increase in the severity of the significant and unavoidable impact to agricultural resources identified in the DEIR. Although HWT revised its comments to state that the additional 5 acres "will not be used during or following construction for any project activities" (HWT 2021b), it did not provide substantial evidence to ensure the agricultural resource will remain used for agricultural purposes. Given that the land would be owned by HWT, even if the land would not be used for utility purposes (at this time), it may be allowed to go fallow and/or may be managed in accordance with HWT's vegetation management guidelines. The continuance of farming on the parcel would be at the discretion of the former landowner (or possibly another entity) and incumbent on HWT to continue the farming agreement. Although HWT reports that an agreement has been reached with the landowner to continue farming this area, this agreement could be terminated or not renewed in the future.

If the additional 5 acres of Unique Farmland were allowed to go fallow or were otherwise no longer actively farmed, or potentially developed at some point in the future for industrial/utility uses, this would constitute a conversion of this land to non-agricultural uses, which would be a significant impact under CEQA. In particular, based on the standard applied in the DEIR with respect to agricultural resources, this would constitute a substantial worsening of the significant impact identified for Important Farmland. As a result, CPUC determined that it was necessary to recirculate the agricultural resources section of the DEIR.

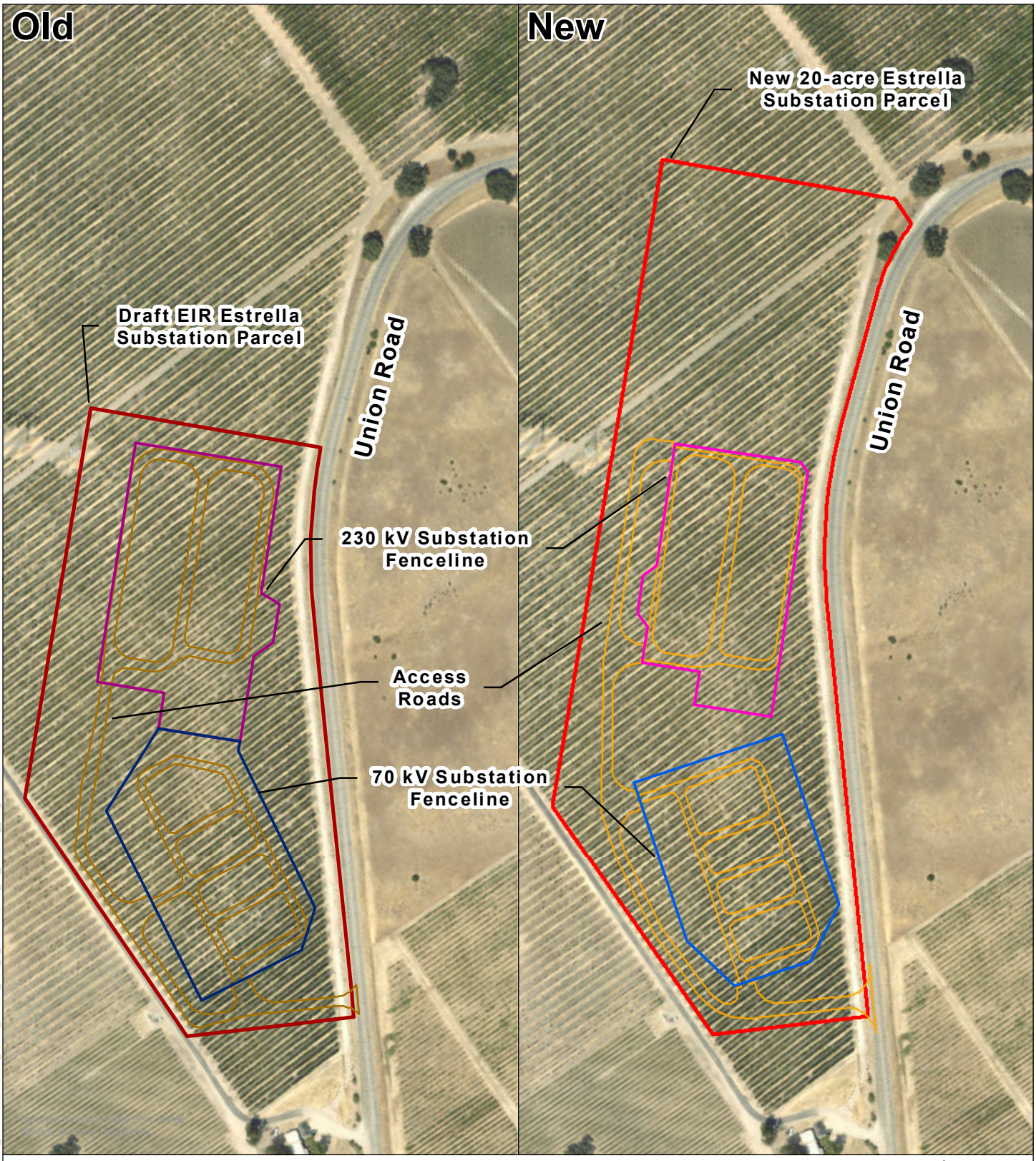

Figure 1-1. Comparison of Estrella Substation Fencelines, Access Roads, and Parcel Boundaries

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With respect to the other changes identified by HWT (see Section 1.1.1), CPUC reviewed this information and determined that the changes would not substantially worsen any of the significant impacts identified in the DEIR or create any new significant impacts. The positioning of the substation facilities slightly closer to Union Road (see Figure 2 in HWT's original comment letter [HWT 2021a: Attachment 1] and Figure 1-1) would slightly increase the prominence of the facilities to motorists driving along the road, but this change would be incremental and would not substantially change the aesthetics analysis included in the DEIR.

Changing the fence height from "approximately 7-foot-tall" to a "minimum of 7-feet-tall" (as originally indicated by the Applicants) would have the potential to substantially worsen the aesthetics impacts identified for the substation in the DEIR, as this revised language would leave open the possibility of a fence of unlimited height. However, as described in Section 1.1.1, CPUC confirmed with the Applicants that 12-feet-tall (including barbed wire) is a reasonable worst-case scenario for the fence height at the substation. A 7 to 12-foot-tall, as shown in the revised Project Description included in this recirculated DEIR, will result in impacts to aesthetics that are not substantially worsened compared to what was disclosed in the DEIR.

The increased estimates for cut and fill volume associated with substation grading and construction (and associated increase in the schedule for grading activities by one week) would increase air quality and greenhouse gas (GHG) emissions due to the increased operation of equipment for earthmoving activities. However, the increase in emissions would be incremental and would not substantially change the analysis presented in the DEIR. Finally, the changes identified by HWT related to the temporary disturbance area from substation construction (reducing the acreage of temporary impacts from 6.20 acres to 0.09 acres [subsequently revised to 0.2 acres]) and the substation access road length (increased by 600 feet) would not result in or constitute new or substantially worsened impacts for any resource topics compared to what was disclosed in the DEIR.

Overall, based on the information submitted by HWT, CPUC has decided to recirculate the agriculture and forestry resources section (Section 4.2) of the DEIR. As described further in Section 1.3, this section has been revised to reflect the new information. None of the other changes to the Proposed Project identified by HWT warranted recirculation of any of the resource sections of the DEIR (Section 4.3 is being recirculated due to the information provided by Adams Broadwell, as described below). Chapter 2, *Project Description* is being recirculated, however, to show all of the Proposed Project changes in context.

1.2.3 New Information Provided by Adams Broadwell Joseph & Cardozo

The original DEIR air quality section determined that Impact AQ-3 (Potential to expose sensitive receptors to substantial pollutant concentrations) would be less than significant based on qualitative assessments due to the short construction time frame and primarily linear nature of the Proposed Project, such that no individual receptor would be exposed to more than a few days of construction, except for the substation construction. A detailed HRA was deemed unnecessary for inclusion in the DEIR. Given the quantitative HRA that was prepared and submitted by Adams Broadwell, suggesting that health impacts may be above the thresholds for the San Luis Obispo County Air Pollution Control District (SLOCAPCD), CPUC decided to recirculate Section 4.3, "Air Quality," of the DEIR out of an abundance of caution. The CPUC's qualitative analysis, as documented in the DEIR, supports a finding that human health impacts

from construction-related DPM and other TAC emissions would be relatively limited due to the short construction duration and the sparsely populated area surrounding the project site. Information provided by the commenters and their consultants was not adequate to conduct a thorough review to determine if their model accurately represents the Proposed Project, as it did not include key details required to make their study reproducible regarding the specific sources spatial representation and actual emissions assigned to specific sources were not provided. Despite, the lack of detailed information provided, the analysis in this recirculated DEIR now conservatively concludes that a few receptors located close to the project construction areas, in particular the Estrella Substation area, may experience increased TACs, which may lead to adverse health impacts. Thus, the significance determination for Impact AQ-3 has been changed to significant and unavoidable. This constitutes significant new information, in that a new significant environmental impact would result from the project compared to what was disclosed in the DEIR.

Similarly, the new information provided by Adams Broadwell regarding the potential health impacts from Valley Fever, which could be caused or exacerbated by the Proposed Project's construction, caused CPUC to reevaluate its significance conclusion with respect to Valley Fever. CPUC recognizes that there is potential even after implementation of dust mitigation measures (e.g., APM AIR-3, Mitigation Measure AQ-1) for Valley Fever spores to reach nearby sensitive receptors. Thus, the EIR now considers the impact from Valley Fever under Impact AQ-3 significant and additional mitigation is proposed to reduce potential for impacts. Although the decision to recirculate the air quality section, and specifically the Impact AQ-3 discussion, had already been made based on the HRA findings described above, this change in the significance conclusion for Valley Fever would constitute significant new information under Section 15088.5(a) of the CEQA Guidelines.

1.2.4 New Information Provided by Pacific Gas & Electric Company

The revisions to the Project Description identified by PG&E were reviewed and determined not to be substantive (i.e., would not result in new significant impacts not already disclosed in the DEIR). Although not a factor in the decision to recirculate portions of the DEIR, these revisions are nonetheless shown in the revised and recirculated DEIR Chapter 2, Project Description, as described further in Section 1.3. CPUC confirmed that the San Luis Obispo County GIS viewer does show the Bonel Ranch Substation Site as being under a Williamson Act contract. The viewer also showed several other discrepancies in the Williamson Act status of parcels in the Proposed Project and alternatives vicinity, compared to what was shown in Figure 4.2-2 of the DEIR. While the original DEIR relied on Williamson Act data from the California Department of Conservation (CDOC), the CDOC has since stopped preparing Williamson Act maps and data, instead directing persons to contact the relevant city or county.

Given that the Bonel Ranch Substation Site is under a Williamson Act contract, and the DEIR's conclusion that construction of a substation on lands under Williamson Act contract would conflict with that contract, including its underlying intent, which is to preserve agricultural land in agricultural use, this would result in a new significant impact for Alternative SS-1 compared to what was disclosed in the DEIR. As described in Section 1.2.2, the decision to recirculate the Agriculture and Forestry Resources section of the DEIR was already made based on the new information submitted by HWT. Thus, Section 4.2, "Agriculture and Forestry Resources," was

further revised to update the Williamson Act contract information and the discussion of Impact AG-2 for Alternative SS-1.

1.3 Overview of the Changes Included in the Recirculated Portions of the Draft Environmental Impact Report

The following portions of the DEIR are being recirculated: Chapter 2, *Project Description;* Section 4.2, "Agriculture and Forestry Resources," and Section 4.3, "Air Quality". The specific changes included within the recirculated DEIR chapters/sections are discussed further below.

1.3.1 Chapter 2, Project Description

The changes to Chapter 2, *Project Description* are based on the revisions to the Proposed Project submitted by HWT in its comments on the DEIR. Changes submitted by PG&E in its comments on the DEIR (PG&E 2021) are also shown in the revised Chapter 2. As described in Section 1.1.1, the revisions by HWT primarily relate to the substation parcel size, substation layout and orientation, substation fence height, and substation construction (e.g., grading). Several other relatively minor changes were identified by HWT and PG&E. All of the changes are shown in underline/strikeout in the revised Chapter 2, *Project Description* included in this recirculated DEIR and are summarized here.

- **Estrella Substation Parcel Size.** The size of the Estrella Substation parcel is revised from 15 acres to 20 acres in several places in the text (Sections 2.2.1, 2.4). Figure 2-7 is also revised to show the larger substation parcel size.

- **Estrella Substation Layout and Orientation.** The Estrella Substation layout and orientation are revised to move the substation facilities slightly closer to Union Road. Other minor changes to equipment layout within the substation are reflected in updated figures. Changes to the substation layout and orientation are reflected in the revised Figures 2-11, 2-12, 2-13, 2-15, and 2-18.

- **Estrella Substation Fence Height.** The height of the fence enclosing the 230 kV substation is revised from approximately 7-foot-tall with an additional 1 foot of barbed wire to a maximum of 12-feet-tall (including 1.5 foot of barbed wire) (Section 2.3.1).

- **Estrella Substation Access Road Dimensions and Construction.** The dimensions of the access road to and within the Estrella Substation is revised. In Section 2.3.1, the length of the access road that is paved to the second entrance to the 70 kV substation is changed from 715 feet to 700 feet. In Section 2.5.2, the total length of the new main substation access road off of Union Road is revised from 1,100 feet to 1,700 feet. Additionally, the text describing the excavation depth required for the access road construction is revised (Section 2.5.1). The excavation would now extend from approximately 2 feet deep at the intersection with Union Road, increasing to 17 feet deep for the remainder of the road (previously, it had been 7 feet deep at the intersection with Union Road, tapering off to 2 feet deep for the remainder of the road).

- **Estrella Substation Grading Volume.** The volume of cut and fill material resulting from substation construction is revised from 50,000 cubic yards to 68,000 cubic yards (Section

2.5.1). It is also clarified that the cut and fill estimate does not include approximately 16,500 cubic yards of topsoil which would be stripped and stockpiled during construction (4,000 cubic yards of which would be used on-site, with the remainder removed from the site).

- **Estrella Substation and Power Line Construction Schedule/Duration.** In Table 2-10, subsection table headings are revised to indicate that several activities (i.e., access roads, site work area preparation mobilization, and fence and gate installation) would apply to the entire 15-acre substation site, instead of solely the 230 kV substation. Additionally, the estimated work dates in Table 2-10 are revised to change the phasing of the Proposed Project construction activities and generally reflect that work on the 230 kV transmission interconnection would be initiated prior to other work activities on the substation. The overall duration of Proposed Project construction is revised from 18 months to 21 months.

- **Estrella Substation Temporary Disturbance Area.** In Table 2-9, the total approximate area of disturbance from the substation work and staging areas is revised from 6 acres to 0.2 acres.

- **Use of Water Trucks during Proposed Project Construction.** It is clarified that although construction would typically occur 6 days per week (Monday through Saturday) throughout the duration of construction, water trucks may be operated on Sundays for fugitive dust control in compliance with the Construction Activity Management Plan (CAMP) (Section 2.5.3).

- **Miscellaneous Corrections and Changes.** Several corrections and changes are made, as follows:

  - In several places of the text in Chapter 2, the name of the existing transmission line adjacent to the Estrella Substation site is revised to reflect its new name: PG&E Morro Bay-California Flats 230 kV transmission line.

  - In Section 2.4, it is clarified that HWT would sell the land and/or grant easements to PG&E (rather than merely sell the land) necessary for construction of the 70 kV substation and 230 kV interconnection.

  - In Section 2.4, it is clarified that Tubular Steel Poles (TSPs) could be used (in addition to or in lieu of the Lattice Steel Towers [LSTs] reported in the original DEIR) to complete the 230 kV interconnection on the substation parcel.

  - In Section 2.5.1, in the discussion of the substation grading and site preparation, the depth of digging for installation of the fence footings is revised from 4 feet to 5 feet.

  - In addition, the text in the discussion of above-ground construction of the Estrella Substation (Section 2.5.1) is revised to indicate that the control house will be delivered and installed on a concrete slab (not on concrete piers).

  - The text describing the process for construction of the 230 kV interconnection is also revised.

1.3.2 Section 4.2, Agriculture and Forestry Resources

This section of the DEIR was revised to disclose the potential additional conversion of agricultural land (Unique Farmland) that could result due to HWT's acquisition of an additional 5 acres of land adjacent to the Estrella Substation site, as well as update information and discussion related to lands under Williamson Act contract. In various places throughout the Section 4.2 text (e.g., Environmental Setting, Impacts Analysis), the reported size of the Estrella Substation parcel is revised to 20 acres from 15 acres. It is also clarified that the Estrella Substation would be constructed on an approximately 15-acre site within a 20-acre parcel. In Table 4.2-1, specific acreages of Important Farmland categories within the substation site are revised to reflect the slightly re-oriented substation layout. Additionally, acreages of Important Farmland categories are added to Table 4.2-1 for the larger 20-acre substation parcel.

Similarly, the acreage calculations in Table 4.2-2 for known impacts to agricultural lands from the Proposed Project are revised to reflect the revised substation layout and positioning. Slight changes to impact acreage calculations for the 70 kV power line were made based on updated data provided by the Applicants in the response to Data Request No. 6. In the discussion under Impact AG-1 (Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses), the potential impacts to agricultural lands associated with HWT's purchase of the larger 20-acre site are discussed and disclosed. As described in Section 1.2.2, although HWT has stated in its response to Data Request No. 6 that the additional 5 acres "will not be used during or following construction for any project activities" (HWT 2021b), no substantial evidence has been provided to ensure that agricultural uses will be continued on this 5-acre area. As such, the added text in Section 4.2 explains that, assuming the area could be impacted or farming could otherwise cease to occur, there would be a permanent conversion of a total 18.9 acres of Important Farmland (excluding Grazing Land, Farmland of Local Potential, and Farmland of Local Importance) to non-agricultural uses as a result of the Proposed Project.

The discussion under Impact AG-2 (Conflict with existing zoning for agricultural use or a Williamson Act contract) is also revised to reflect the increase in the substation parcel size from 15 acres to 20 acres. Accordingly, due to the larger parcel size, the text is revised to indicate that the current 98-acre Williamson Act parcel would be reduced to 78 acres (instead of 83 acres) (Mora, pers. comm., 2021). For the purposes of this DEIR, the CPUC assumes the additional 5 acres could be used for non-agricultural uses at some point in the future. Even if the land would not be used for utility purposes (at this time), it may be allowed to go fallow and/or may be managed in accordance with HWT's vegetation management guidelines (Kidwell, pers. comm., 2021). The continuance of farming on the parcel would be at the discretion of the former landowner (or possibly another entity). Although HWT reports that an agreement has been reached with the landowner to continue farming this area, this agreement could be terminated or not renewed in the future. However, neither the changes under Impact AG-1 nor AG-2 change the impact conclusions reached.

With respect to the updated data for Williamson Act contracts in the Proposed Project and alternatives vicinity, Figure 4.2-2 was revised to incorporate the updated data (San Luis Obispo County). This updated data did not change the significance conclusion or discussion for the Proposed Project or any of the alternatives, except for Alternative SS-1, with respect to potential conflicts with a Williamson Act contract (Impact AG-2). The discussion under Impact AG-2 for

Alternative SS-1 was revised to state that the Bonel Ranch Substation Site is under a Williamson Act contract and construction of the substation on this site would conflict with the underlying intent of the contract, even with implementation of Mitigation Measure AG-1 and AG-2. As such, impacts under significance criterion B[2] for Alternative SS-1 would be significant and unavoidable.

1.3.3 Section 4.3, Air Quality

This section of the DEIR was revised to disclose the additional potential significant impacts of the Proposed Project and alternatives related to human health impacts from the construction-related emissions and those impacts related to Valley Fever. In Section 4.3.2, "Regulatory Setting," under the discussion of "State Laws, Regulations, and Policies," text is added to summarize Assembly Bill (AB) 203, which was enacted in 2019, modifying section 6709 of the California Labor Code to require construction employers in counties where Valley Fever is highly endemic to provide training to all employees (e.g., types of work and personal factors affecting risk, personal and environmental exposure prevention methods, recognizing signs and symptoms, etc.). Additionally, discussion is added summarizing relevant recommendations and regulations of the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) applicable to Valley Fever. These include requirements and regulations related to reporting of worker illnesses, provision of respiratory protection, and control of harmful exposures to workplace hazards.

In Section 4.3.4, "Impact Analysis," under the discussion of Impact AQ-2 (Potential to violate reactive organic gases [ROG], nitrogen oxides [NOx], and particulate matter with aerodynamic radius of 10 micrometers or less [PM_{10}] significance thresholds and contribute substantially to an existing or projected air quality violation), an additional table has been added (Table 4.3-5b, "Construction Emissions-Mitigated") to distinguish between the Proposed Project's unmitigated and mitigated emissions estimates during construction. The data and analysis included in Table 4.3-5b shows that even with implementation of mitigation measures (i.e., use of Tier 4 final construction equipment), the Proposed Project's construction emissions would still exceed applicable significance thresholds for certain constituents (ROG plus NOx and fugitive dust [PM_{10}]). The text of Mitigation Measure AQ-1 is revised to provide minimum performance standards for measures that may be included into the CAMP for mitigating fugitive dust and construction equipment emissions. Text is also added to Mitigation Measure AQ-1 to identify specific fugitive dust control measures that must be implemented during Proposed Project construction. Mitigation Measure AQ-1 is also revised to provide for coordination with SLOCAPCD to establish emission offsets to reduce net emissions below applicable quarterly thresholds, if emissions are projected to exceed thresholds.

Although HWT identified changes to the schedule and phasing of construction activities in the Project Description (see revisions in the revised DEIR Chapter 2, included in this recirculated DEIR), no changes were made to the air pollutant emissions modeling assumptions or results compared to the original DEIR. The CPUC maintains that the schedule and equipment

[2] Significance criterion B in Appendix G of the CEQA Guidelines under the Agriculture and Forestry Resources topic states that a project would have a significant impact if it would "conflict with existing zoning for agricultural use, or a Williamson Act contract."

assumptions used in the air quality analysis are reasonable estimates for the project given the information provided and considering that some uncertainty still exists regarding the construction schedule (additional changes are possible in the future given that final design and engineering has not yet been completed). The changes to the schedule and phasing included in the revised DEIR Chapter 2 would not substantially change the results of the original analysis of air pollutant emissions included in Section 4.3, "Air Quality."

The discussion under Impact AQ-3 (Potential to expose sensitive receptors to substantial pollutant concentrations), with respect to exposure to DPM and TACs, is revised to: (1) provide background on the uncertainty associated with estimates of chronic and cancer health effects associated with DPM and other fossil fuel combustion TACs over short periods; (2) discuss the potential exposure to construction emissions that could be experienced by sensitive receptors near the Proposed Project construction areas, particularly the substation site; (3) describe the SLOCAPCD's recommendations with respect to conducting HRAs and its defined significance thresholds with respect to cancer risk and acute health hazards; (4) discuss and summarize the HRA submitted by Adams Broadwell as part of its comments on the DEIR (see discussion in Section 1.1.2 above) and the HRA's findings, and (5) disclose the potential health impacts that could occur from exposure to DPM and TACs during Proposed Project construction. Although implementation of APMs AIR-1, AIR-2, and AIR-3, and Mitigation Measure AQ-1, would help to reduce DPM emissions during construction, the analysis conservatively finds that the health impacts would be significant and unavoidable.

With respect to Valley Fever, the discussion under Impact AQ-3 is revised to discuss the potential for the Proposed Project construction to result in exposure of sensitive receptors to Valley Fever spores, resulting in significant health impacts. A new mitigation measure (Mitigation Measure AQ-2: Prepare a Valley Fever Management Plan [VFMP] for Review by the California Department of Public Health [CDPH] and San Luis Obispo Department of Public Health and Final Approval by CPUC) is included, which would require preparation of a VFMP in coordination with CDPH and the San Luis Obispo Department of Public Health. Mitigation Measure AQ-2 lists specific elements that shall be included in the VFMP, as currently suggested by CDPH, including measures to minimize dust creation and exposure; minimize transporting of spores off-site, and protect worker health. In spite of the measures that would be included in the new Mitigation Measure AQ-2, the analysis conservatively finds that the impacts from Valley Fever would be significant and unavoidable.

In a similar vein, the discussions of Impact AQ-3 for Alternatives SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, and SE-PLR-2 were revised to disclose potential significant impacts related to exposure of sensitive receptors to DPM, TACs, and Valley Fever spores. Although the CPUC continues to believe that human health impacts from construction-related DPM and other TAC emissions would be relatively limited due to the short construction and the sparsely populated areas surrounding most of the alternatives sites, the analysis conservatively concludes that a few receptors located close to construction areas may experience increased TAC, which may lead to adverse health impacts. Similarly, ground disturbance for construction of alternatives could mobilize Valley Fever spores, leading to adverse health impacts.

1.4 Recirculation Process and Public Review of the Recirculated Portions of the Draft Environmental Impact Report

The CPUC's rationale for recirculating portions of the DEIR is provided in the preceding sections of this chapter. As discussed, in accordance with Section 15088.5 of the CEQA Guidelines, CPUC has determined that new information has been presented, including changes to the Proposed Project, which would result in a substantial increase in the severity of a significant impact disclosed in the DEIR. As a result, certain portions of the DEIR are being recirculated.

Note that recirculation is only pertaining to the new information described in this chapter and does not address other aspects of comments received on the DEIR. Therefore, any further revisions to the DEIR, unrelated to the recirculation, that may be deemed appropriate in response to comments received on the original DEIR are not included here, but will be included in the FEIR prepared for the Proposed Project. Additionally, the FEIR will include written responses to all comments received on the DEIR, including the comments on the original DEIR and the comments that may be submitted on the recirculated portions of the DEIR contained herein. As discussed further below, the CPUC requests that public comment on this document be limited to the substantive new information in this document to avoid duplication of comments.

Section 15088.5(d) of the CEQA Guidelines states that recirculation of an EIR requires notice pursuant to Section 15087, and consultation pursuant to Section 15086. As such, in recirculating the portions of the DEIR herein, CPUC will follow all public noticing requirements typically required of a DEIR, including notifying responsible agencies, trustee agencies, and other applicable federal, state, and local agencies. This will include posting of the Notice of Availability (NOA) on the Proposed Project website; emailing the NOA to individuals on the Proposed Project's email list; and mailing hard copies of the NOA to properties and property owners with properties in proximity to the Proposed Project or alternative components. CPUC will also send a Notice of Completion to the Office of Planning and Research (OPR).

Section 15088.5(f) provides guidance for lead agencies in limiting comments on a DEIR where only portions of the DEIR are being recirculated:

> When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR. (CEQA Guidelines Section 15088.5[f][2])

In Section 1.5 below, CPUC requests that reviewers limit their comments to the portions of the DEIR being recirculated and, specifically, the new information included within the recirculated

portions of the DEIR. The public review period for the recirculated portions of the DEIR will be 55 days. CPUC will review the comments on the recirculated portions of the DEIR, along with the comments submitted on the original DEIR, and will ensure that all substantive comments are addressed in the FEIR.

1.5 Submittal of Comments

CPUC is recirculating portions of the DEIR for a 55-day public review and comment period, as indicated in the NOA. As of publication of this recirculation, CPUC does not plan to hold any public meetings during this period. In accordance with CEQA Guidelines Section 15088.5(f)(2), the CPUC requests that review and comment on the recirculated DEIR be limited to the revised portions of the DEIR. The purpose of public circulation is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the contents of the recirculated portions of the DEIR.

Written comments concerning the recirculated portions of the DEIR can be submitted at any time during the 55-day public review period. All comments must be received by the deadline indicated in the NOA, directed to the name and address listed below:

Trevor Pratt, Project Manager
c/o Tom Engels
Horizon Water and Environment
P.O. Box 2727, Oakland, CA 94602
266 Grand Avenue, Suite 210
Oakland, CA 94610

estrellaproject@horizonh2o.com

Submittal of written comments via e-mail (Microsoft Word or PDF format) would be greatly appreciated. Written comments received in response to the recirculated portions of the DEIR during the public review period will be addressed in the response-to-comments section of the FEIR for the Proposed Project.

All documents mentioned herein or related to the Proposed Project can be reviewed online at the following website:

www.cpuc.ca.gov/environment/info/horizonh2o/estrella/index.html

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Chapter 2
Revised and Recirculated Portions of the Draft Environmental Impact Report

This chapter contains the revised and recirculated portions of the Draft Environmental Impact Report (DEIR) for the Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project). As described in Chapter 1, revisions are shown in underline/strikeout (to indicate additions and deletions).

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Revised DEIR Chapter 2 – Project Description

Chapter 2
Project Description

The California Public Utilities Commission (CPUC) is responsible for environmental review and permitting of Horizon West Transmission, LLC's (HWT) (formerly NextEra Energy Transmission West, LLC [NEET West]) and Pacific Gas and Electric Company's (PG&E) (collectively referred to as the "Applicants") proposed Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project). The Proposed Project would involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV power line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV power line. The Proposed Project also anticipates providing for the future establishment of three new distribution feeders from the proposed Estrella Substation, including construction of roughly 1.7 miles of new distribution line and additional reconductoring activities. The distribution components are not planned to be constructed presently, but are being evaluated in the environmental impact report (EIR) because they are reasonably foreseeable (PG&E 2020). These facilities would be located in unincorporated San Luis Obispo County and within the City of Paso Robles (City). The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area and to accommodate projected new growth.

This chapter describes the Proposed Project's purpose and objectives, location and setting, components, construction actions and methods, operation and maintenance, and anticipated permits and approvals. Information presented in this chapter is based primarily on the Proponent's Environmental Assessment (PEA) prepared by SWCA Environmental Consultants, Inc. for HWT and PG&E (NEET West and PG&E 2017) and follow-up requests by the CPUC for additional information.

2.1 Proposed Project Purpose, Need, and Objectives

2.1.1 Purpose and Need

The Proposed Project is needed to provide transmission system redundancy and power support in the event of outages (i.e., contingencies), as well as increased distribution capacity to accommodate forecasted electrical load growth in the Paso Robles area. The Proposed Project would also improve electrical service reliability by reducing the length of distribution feeders in the area. The following subsections provide further detail regarding the fundamental purpose and need of the Proposed Project.

Transmission System

The Proposed Project was identified in the California Independent System Operator's (CAISO) 2013-2014 Transmission Plan as a project needed to mitigate thermal overloads and voltage concerns in the Los Padres 70 kV system (specifically in the San Miguel, Paso Robles, Templeton,

Atascadero, Cayucos, and San Luis Obispo areas) (CAISO 2014). CAISO modeling determined that thermal overloads and very low voltage conditions could occur in this system following either one of two Category B (i.e., P1 or N-1)[1] contingencies: loss of the Templeton 230 kV/70 kV #1 Transformer Bank or loss of the Paso Robles-Templeton 70 kV power line.

Essentially, if either the #1 Transformer Bank at the Templeton Substation or the 70 kV power line connecting the Paso Robles and Templeton Substations were to fail for any reason (e.g., vehicular impact to existing infrastructure, vegetation and/or storm damage, wildlife damage to existing electrical connections, and/or mechanical failure), this could result in dangerous overloading and low voltage conditions in the regional system. This is both due to high load (i.e., electrical service demand) in the Paso Robles area relative to substation capacity, as well as lack of redundancy in the system. As shown in Figure 2-1, currently, the only sources of power to the Paso Robles Substation are the San Miguel-Paso Robles 70 kV power line from the north and the Paso Robles-Templeton 70 kV power line from the south, with the latter providing the bulk of the power and the nearest connection to a 230 kV power source. The San Miguel-Paso Robles 70 kV power line does not have the capacity to accommodate the load served through the Paso Robles Substation should the power source from Templeton Substation fail; therefore, thermal overloads and low voltage could occur on this line during one of the Category B/P1 contingencies identified by CAISO (NEET West and PG&E 2017).

Because PG&E has an Under-Voltage Load Shedding (UVLS) scheme that serves to protect the transmission system infrastructure in the event of such overload scenarios, rather than allow the power line to deteriorate or completely fail, load would be systematically shed to bring voltages to acceptable levels. Practically, without the Proposed Project, this could result in 60 to 70 megawatts (MW) of load in the Paso Robles area being dropped during one of the Category B/P1 contingencies described above (CAISO 2014).

[1] The CAISO uses the National Electric Reliability Commission (NERC) reliability standards to analyze the need for transmission system upgrades. The NERC standards provide criteria for system performance requirements that must be met under a varied but specific set of operating conditions, and prior to 2012, included the following categories:

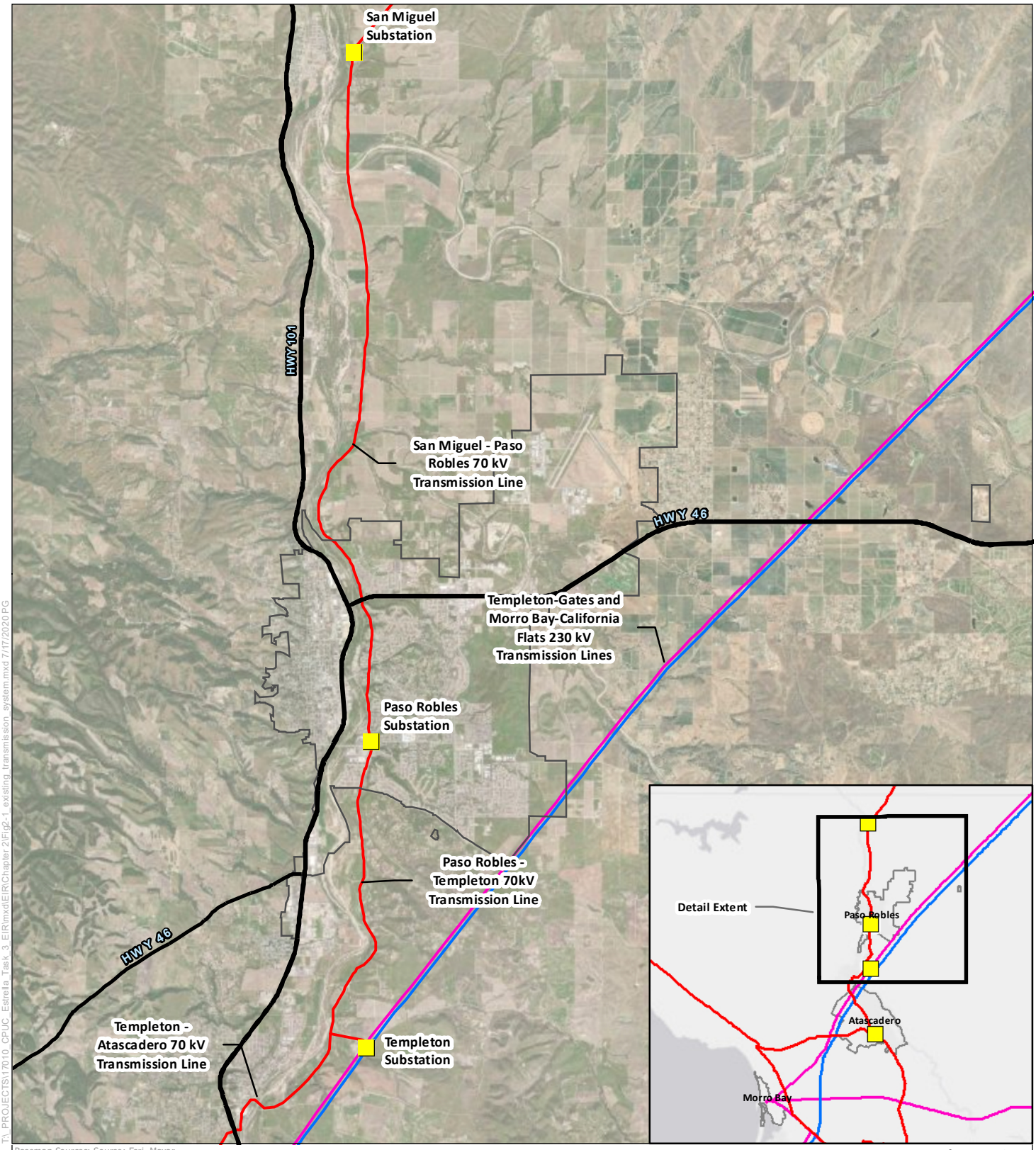
- Category A – System Performance Under Normal Conditions;
- Category B – System Performance Following Loss of a Single Bulk Electric System (BES) Element;
- Category C – System Performance Following Loss of Two or More BES Elements; and
- Category D – System Performance Following Extreme BES Events.

The latest adopted NERC TPL-001-4 transmission reliability standard applies new terminology; P0 through P7 define different scenarios based on the initial system condition and nature of the event (e.g., loss of generator, transmission circuit, bus section fault, etc.). The Category B contingencies identified for the Proposed Project would equate to a P1 (single contingency), while the Category C3 contingency would equate to a P6 (multiple contingency; two overlapping singles) (NERC No Date). The NERC standards allow for load to be dropped for a P6 contingency, but not for a P1 contingency.

NERC also refers to single contingencies (i.e., loss of a single BES element) as N-1 events. A multiple contingency where both BES elements fail at the same time (e.g., two circuits on the same pole line fail when a pole is hit by a vehicle) is known as a N-2 event. A multiple contingency involving the consecutive loss of two single BES elements that are not physically or electrically connected is known as a N-1-1 event. The Category B/P1 contingencies identified for the Proposed Project would be N-1 events, whereas the Category C3/P6 contingency would be a N-1-1 event.

In addition to the above issues, CAISO also identified a Category C3 (i.e., P6 or N-1-1) contingency condition involving loss of the Morro Bay-Templeton and Templeton-Gates 230 kV lines that would result in thermal overloads and low voltages in the underlying 70 kV system. The 2013-2014 Transmission Plan states that with the additional source from the Gates 230 kV system, the Proposed Project would provide robust system reinforcement to the Paso Robles and Templeton 70 kV system operations (CAISO 2014).

Figure 2-1 shows a map depicting the transmission system in the area of Paso Robles. Figure 2-2 and Figure 2-3 show conceptual diagrams of the existing transmission system and the proposed transmission system with the addition of Estrella Substation.



Basemap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

Existing Substation

Existing Transmission Lines

70 kV

230 kV

500 kV

Paso Robles City Limits

Highways

N

0 1

Miles

Source: Source: NEET West and PG&E 2017

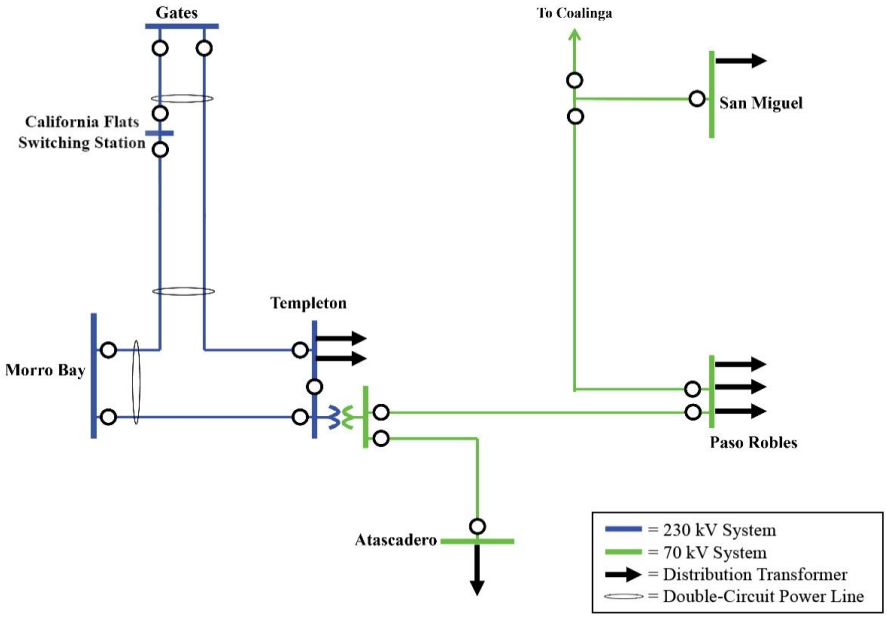
Note: The route variations shown are offset in order to display the alignments of the alternative routes that may overlap in places.

Figure 2-1
Existing Transmission System

Estrella Substation and Paso Robles Area Reinforcement Project

T:_PROJECTS\17010_CPUC_Estrella_Task_3_EIR\mxd\EIR\Chapter 2\Fig2-1_existing_transmission_system.mxd 7/17/2020 PG

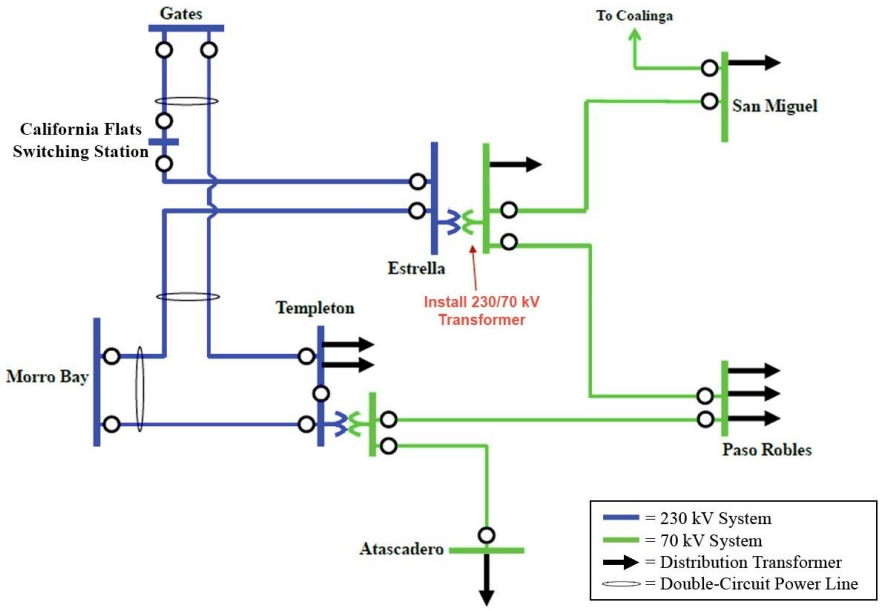
Figure 2-2. Existing Transmission System – Line Diagram



Note: kV = kilovolt

Source: NEET West and PG&E 2017

Figure 2-3. Proposed Transmission System – Line Diagram



Note: kV = kilovolt

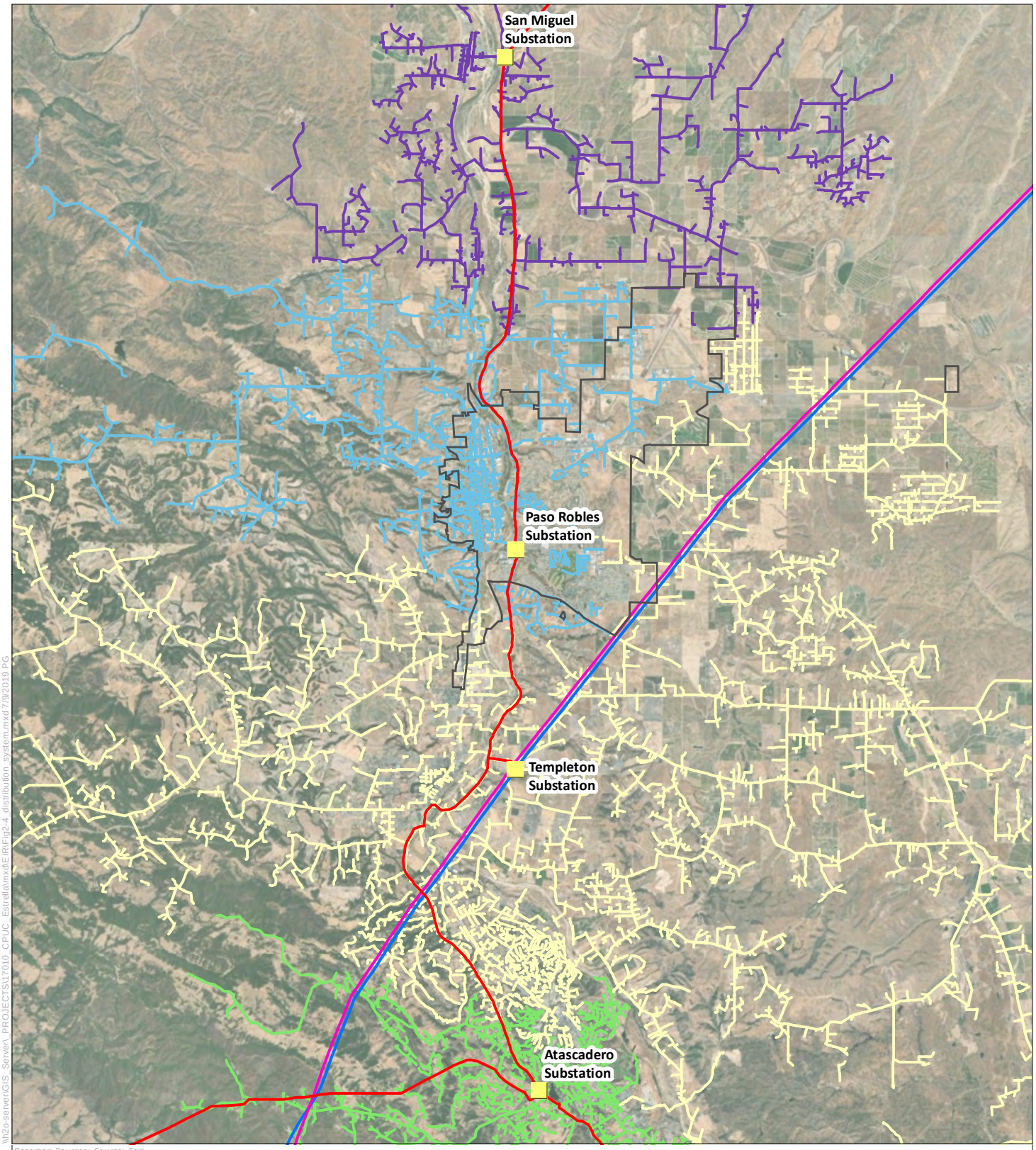
Source: NEET West and PG&E 2017

Distribution System

The Proposed Project also would address existing undesirable conditions and projected load growth in the distribution system in the Paso Robles area. As described in detail in Appendix G of the Applicants' PEA, the Paso Robles system is characterized by very long distribution feeders[2], particularly those extending from Templeton Substation (see Figure 2-4). This is undesirable because long feeders are more susceptible to potential outages caused by vehicle pole strikes, downed vegetation from storms, or other incidents (NEET West and PG&E 2020a). Additionally, outages that occur on long feeders may affect larger numbers of people than similar events that occur on feeders of moderate length. In general, PG&E states that "Reliable distribution systems consist of substations located at regular intervals and sized correctly in terms of capacity and number of feeders to cover the area between substations without overextending some substations and underutilizing others. The Paso Robles Distribution Planning Area (DPA) is not currently in line with these system goals" (NEET West and PG&E 2020a).

Locating the new substation at its proposed location would allow for the long feeders to be split in half and for some of the load currently being served by the Templeton Substation to be served by the new Estrella Substation. Reducing the length of these feeders would reduce potential outages for customers in this area and improve the reliability of the distribution system in this area. Table 2-1 shows historical outages on the Templeton feeders, while Table 2-2 provides more detailed information (including root cause) for the sustained outages on the Templeton feeders. Finally, Table 2-3 provides a comparison of indices for reliability for the Templeton feeders, as compared to the Paso Robles DPA as a whole and to PG&E's entire system. Of note, the information in Table 2-1, Table 2-2, and Table 2-3 shows that (1) numerous sustained and momentary outages have occurred in recent years on the Templeton 21 kV feeders, affecting a substantial number of customers; (2) sustained outages on the Templeton feeders have been caused by a variety of factors and have often lasted quite long (up to 16 hours and 43 minutes); and (3) compared to the Paso Robles DPA and the PG&E system as a whole, the Templeton feeders have a higher average frequency of sustained outages (AIFI) and average frequency of momentary interruptions (MAIFI).

[2] Distribution *circuits* (i.e., electrical lines or conductors) are commonly referred to as *feeders*. They operate at voltages under 50 kV.



\\h2o-server\GIS_Server_PROJECTS\17010_CPUC_Estrella\mxd\EIR\Fig2-4_distribution_system.mxd 7/9/2019 PG

Basemap Sources: Source: Esri, DigitalGlobe, GeoEye, Earthstar

Existing Substation

Paso Robles City Limits

Existing Transmission Lines

70 kV

230 kV

500 kV

Existing Distribution

ATASCADERO

PASO ROBLES

SAN MIGUEL

TEMPLETON

N

0 1

Miles

Horizon WATER and ENVIRONMENT

Source: NEET West and PG&E 2017

Figure 2-4
Existing Distribution System

Estrella Substation and Paso Robles Area Reinforcement Project

Table 2-1. Five-Year Outage History of Templeton 21 Kilovolt Feeders (February 2012 to February 2017)

Feeder Name	Area Served Where Outages Occurred	No. of Sustained Outages	No. of Momentary Outages	Average No. of Customer Connections Affected Per Event	Highest No. of Customer Connections Affected by an Event
Templeton 2108	Northern Atascadero	7	10	2,955	3,189
Templeton 2109	Northeast Paso Robles	5	9	2,957	4,325
Templeton 2110	Rural West Paso Robles	4	20	1,802	2,926
Templeton 2111	Western Atascadero	6	10	1,847	2,433
Templeton 2112	Southern Paso Robles	3	10	475	1,068
Templeton 2113	Santa Margarita	7	25	1,911	5,446

Source: NEET West and PG&E 2020a

Table 2-2. Sustained Outage History of Templeton 21 kV Feeders (February 2012 to February 2017)

Feeder Name	Root Cause Explanation of the Sustained Outage	Duration of Sustained Outage	Start Time for Sustained Outage (date and time)	Number of Customers Affected
Templeton 2108	Unknown Cause, Patrol – Not Conducted	39 Minutes	12/11/2014, 17:28	3,115
	Equipment Failure/Involved, Overhead	16 hours and 43 minutes	5/18/2015, 16:22	3,124
	Company Initiated, Personnel, Company	21 minutes	10/5/2012, 15:57	3,146
	Equipment Failure/Involved, Other	21 minutes	3/14/2014, 11:49	3,041
	Unknown Cause, Patrol – Found Nothing	20 minutes	8/29/2014, 13:21	2,307
	Unknown Cause, Patrol – Found Nothing	15 minutes	10/8/2014, 14:06	2,313
	Equipment Failure/Involved, Other	51 minutes	9/27/2013, 7:23	3,011
Templeton 2109	3rd Party, Vehicle	2 hours and 3 minutes	5/5/2012, 3:02	4,305
	3rd Party, Vehicle	20 minutes	3/31/2013, 16:58	2,021
	Company Initiated, Coordination Failure	3 hours and 53 minutes	6/28/2013, 16:14	2,023
	Vegetation, Tree – Fell into Line	3 hours and 25 minutes	2/17/2017, 10:10	332
	Equipment Failure/Involved, Other	56 minutes	7/21/2016, 18:19	2,364
Templeton 2110	Equipment Failure/Involved, Substation	3 hours and 45 minutes	6/21/2016, 16:52	2,924
	Equipment Failure/Involved, Other	24 minutes	6/25/2015, 07:45	1,247
	Vegetation Tree – Branch Fell on Line	7 minutes	6/21/2016, 20:49	491
	Equipment Failure/Involved, Underground	24 minutes	6/1/2016, 23:57	1,247
Templeton 2111	Environmental/External, Lightning	10 hours and 15 minutes	7/19/2015, 2:35	1,406
	Equipment Failure/Involved, Overhead	8 hours and 23 minutes	11/9/2015, 01:37	960
	Vegetation, Tree – Fell into Line	10 hours and 40 minutes	3/5/2016, 23:10	959
	Unknown Cause, Patrol – Found Nothing	1 hour and 15 minutes	4/17/2016, 12:53	960
	3rd Party	52 minutes	4/14/2016, 11:34	2,376

Feeder Name	Root Cause Explanation of the Sustained Outage	Duration of Sustained Outage	Start Time for Sustained Outage (date and time)	Number of Customers Affected
	Vegetation, Tree – Fell into Line	51 minutes	7/10/2012, 13:30	2,376
Templeton 2112	3rd Party, Vehicle	12 hours and 16 minutes	12/17/2016, 00:40	937
	Vegetation, Tree – Branch Fell on Line	5 hours and 29 minutes	7/14/2012, 18:51	428
	Company Initiated, Failed Equipment	1 hour and 37 minutes	11/5/2012, 10:27	428

Source: NEET West and PG&E 2019

Table 2-3. Templeton 21 Kilovolt Feeder Outage Indices, as Compared to Indices for the Paso Robles DPA and PG&E System-wide

Sample	Year	AIDI	AIFI	MAIFI	CAIDI	SO	MO
Templeton Feeders							
Selected Templeton Feeder Outages	2012	28.8	0.590	1.687	48.8	6	13
	2013	52.5	0.570	0.907	92.1	6	9
	2014	14.8	0.598	1.234	24.7	5	12
	2015	64.0	0.490	2.337	130.8	5	25
	2016	112.2	1.463	2.532	76.7	12	21
	2017	24.5	0.290	1.011	84.5	2	7
	Average	49.48	0.67	1.62	76.27	-	-
Paso Robles DPA Feeders							
Other Feeder Outages in the Paso Robles DPA	2012	34.1	0.329	0.835	103.4	12	33
	2013	49.6	0.504	1.611	98.5	16	40
	2014	110.9	0.659	1.144	168.3	25	23
	2015	136.5	0.617	1.021	221.1	22	61
	2016	38.2	0.454	1.440	84.2	22	47

Sample	Year	AIDI	AIFI	MAIFI	CAIDI	SO	MO
	2017	109.0	0.430	1.017	253.7	19	17
	Average	79.70	0.50	1.18	154.87	-	-
System-wide Feeders							
System-wide Feeder Outages	2012	70.8	0.609	1.467	116.1	3,191	7,706
	2013	61.3	0.584	1.350	105.0	2,933	7,521
	2014	73.8	0.643	1.265	114.8	3,419	6,870
	2015	59.5	0.546	1.538	108.8	3,281	8,816
	2016	56.2	0.620	1.311	90.5	3,486	8,154
	2017	82.9	0.312	0.667	266.0	1,893	4,247
	Average	67.41	0.55	1.27	133.53	-	-

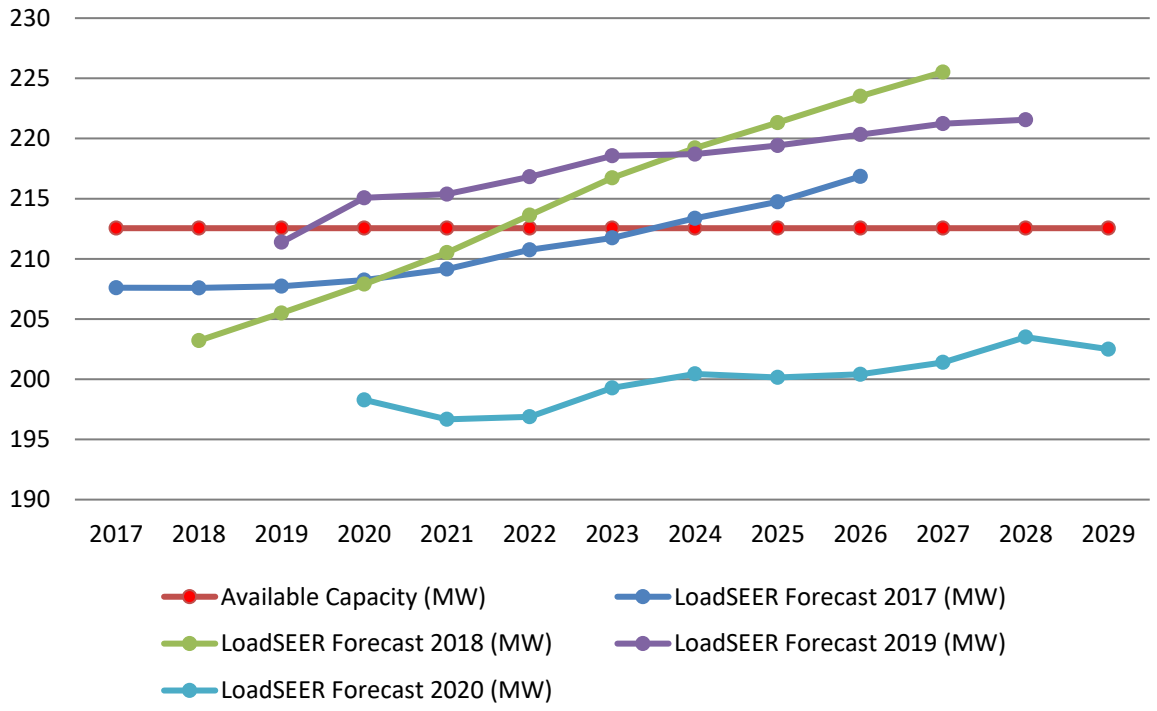
Notes: AIDI = average outage duration; AIFI = average frequency of sustained outages; CAIDI = average service restoration times; DPA = distribution planning area; MAIFI = average frequency of momentary interruptions; MO = momentary outages; PG&E = Pacific Gas and Electric Company; SO = sustained outages

Source: NEET West and PG&E 2019

In addition to the issue of long feeders, the projected growth within the Paso Robles DPA is anticipated to exceed the capacity of the system in the future. The City of Paso Robles (City) expects strong industrial growth to occur north of State Route (SR-) 46 in the Paso Robles city limits (in particular within the Golden Hill Industrial Park and directly south of Paso Robles Airport along Dry Creek Road) within the next 10 years, and a resurgence of residential growth south of SR-46 (NEET West and PG&E 2020a). Overall, City planners are estimating a 50 percent increase in the population of Paso Robles by 2045.

Increases in electrical demand (i.e., load) will place increased demands on the distribution and transmission systems. After using its LoadSEER[3] forecasting tool over the last several years, PG&E predicts that anticipated normal growth in the area, coupled with the addition of large "block loads" (e.g., large new businesses or developments that require large amounts of electricity), will exceed the available capacity of the Paso Robles system within 5 to 15 years (see Figure 2-5).

Figure 2-5. LoadSEER Forecasts (2017-2020), Paso Robles DPA



DPA = distribution planning area; MW = megawatt

Source: NEET West and PG&E 2018, 2019, 2020a, 2020b

[3] LoadSEER is a spatial load forecasting tool which is used by electric distribution system planners to predict load and power changes, where on the grid the loads will occur, how distributed generation changes the load shape, and when it must be supplied (Integral Analytics No Date). PG&E utilizes the LoadSEER forecasting tool to predict growth in area electrical demand within a DPA for a 10-year period into the future, incorporating the most recent 13 years of substation historical peak-load data.

As shown in Figure 2-5, the available capacity in the Paso Robles DPA is currently static at just over 212 MW. This capacity is equal to the cumulative capacities of the four substations (Atascadero, Paso Robles, Templeton, and San Miguel) in the DPA, whereas the LoadSEER forecast prepared for the Paso Robles DPA represents the cumulative load that must be served by the distribution system for this area. The forecasted load has varied considerably over the last 4 years of LoadSEER forecasting by PG&E. The current (2020) forecast does not show that load will exceed available capacity in the next ten years, but additional capacity may be needed in the future. In a practical sense, without addition of a new or expanded substation or other facilities to serve increased load when it materializes, this situation could result in thermal overloads, low voltage, and electrical service outages, as the infrastructure is unable to meet demands. While the LoadSEER forecast takes a conservative approach to predict the peak load in any given year (assuming a 1-in-10 year in terms of heat and electricity usage), the actual recorded peak loads in the Paso Robles DPA have been lower than forecasted in recent years, as shown in Table 2-4.

Table 2-4. Recorded Peak Load in the Paso Robles DPA

Year	Historical Available DPA Capacity	Historical DPA Peak Load
2007	182.46	179.44
2008	197.51	169.40
2009	197.51	164.40
2010[1]	212.55	158.73
2011	212.55	150.69
2012	212.55	173.98
2013	212.55	180.63
2014	212.55	164.74
2015	212.55	169.33
2016	212.55	185.50~~[3]~~
2017	212.55	195.06
2018	212.55	190.30
2019[2]	212.55	168.10

Notes: DPA = Distribution Planning Area; MW = megawatt

1. Paso Robles Bank 1 was replaced in 2010 with a 30 megavolt ampere transformer unit, bringing available DPA capacity to 212.55 ~~megawatt (~~MW~~)~~.
2. Paso Robles Bank 1 capability updated in May 2019 to reflect customer reserve capacity.

~~3. The original 190.14 MW from 2016 has been corrected to reflect the true value of 185.50.~~

Source: NEET West and PG&E 2020c

The intent of the Proposed Project is to provide enhanced operational flexibility, improved area system reliability, and add capacity to the system with the addition of the new Estrella Substation. The new Estrella Substation would be able to absorb load currently served by other substations within the DPA and alleviate existing undesirable conditions. Additionally, since the new industrial growth is anticipated to occur in the Golden Hill Industrial Park area, the new substation and the reasonably foreseeable new distribution circuits would be well positioned to serve this new load. Please refer to Appendix G of the Applicants' PEA for detailed discussion of the Proposed Project purpose and need, and the modeling conducted for the existing distribution system.

2.1.2 Project Objectives

Applicants' Project Objectives

In their PEA, the Applicants identified the following objectives for the Proposed Project:

- **Reinforce Electrical Reliability by Implementing the CAISO-Approved Electrical Plan of Service.** Increase reliability and mitigate thermal overloads and voltage concerns in the area by having an additional 230 kV source of power that will increase service reliability in northern San Luis Obispo County, and maintain compliance with National Electric Reliability Commission (NERC) reliability standards, as described in the *Estrella Substation Project Functional Specifications* issued by CAISO in June 2014. The Estrella Project is also intended to allow NEET West [HWT] and PG&E to meet their obligation to add the CAISO-approved project to the CAISO-controlled grid, as defined in the *Functional Specifications* and the Approved Project Sponsor Agreement.

- **Meet Expected Future Electric Distribution Demand.** Provide a location for future 21 kV distribution facilities with a 230/70 kV source near the anticipated growth areas in northern Paso Robles to efficiently add distribution capacity and improve service reliability when required in the Paso Robles DPA.

- **Balance Safety, Cost, and Environmental Impacts.** Locate, design, and build the project in a safe, cost-effective manner that will also minimize environmental impacts.

CPUC's Project Objectives

As part of its authority as the lead agency under the California Environmental Quality Act (CEQA) for preparation of the ~~environmental impact report (~~EIR~~)~~ for the Proposed Project, the CPUC is responsible for identifying appropriate project objectives to inform the CEQA process/evaluation, including the development and screening of project alternatives. These objectives may differ from the Applicants' stated objectives. Based on its understanding of the fundamental underlying purpose of the Proposed Project, the CPUC has identified the following CEQA objectives for the Proposed Project:

Transmission Objective: Mitigate thermal overload and low voltage concerns in the Los Padres 70 kV system during Category B contingency scenarios, as identified by the CAISO in its 2013-2014 Transmission Plan.

Distribution Objective: Accommodate expected future increased electric distribution demand in the Paso Robles DPA, particularly in the anticipated growth areas in northeast Paso Robles.

The issue of long feeders and poor service reliability was not identified as a fundamental project objective by the CPUC; however, it is considered a beneficial effect of the Proposed Project.

2.2 Proposed Project Location and Setting

The Proposed Project would be located within the northern portion of San Luis Obispo County, California, including portions of the City of Paso Robles. The nearest communities are San Miguel, which is approximately 9 miles to the northwest, and Templeton, which is approximately 8.5 miles to the southwest. Land uses surrounding the Proposed Project area south of SR-46 are a mixture of intensive agriculture, vineyards, and rural residential development. North of SR-46 and within the City of Paso Robles limits, land uses consist of light industrial development, urban and residential development, and wineries/vineyards. Topography in the vicinity of the Proposed Project is generally rolling hills, with existing elevations ranging from approximately 920 feet to ~~960~~970 feet above mean sea level. Figure 2-6 shows an overview of the Proposed Project components, location, and setting.

2.2.1 Estrella Substation

Estrella Substation would be located on an approximately 15~~-~~ acres ~~portion~~ of a ~~98.6~~20-acre site. The 20-acre site was created from a 98.6-acre parcel of land. The ~~is~~ entire 20-acre site and parcel of land are~~is~~ currently planted with grape vines of 10-foot-wide span lengths. Several existing dirt maintenance roads traverse the parcel. Scattered oak trees are located close to Union Road along with one residential dwelling near the southwest corner of the parcel. Dry Creek, an ephemeral tributary to Huer Huero Creek, passes approximately 1,500 feet to the north of the proposed Estrella Substation site. In addition to the one residence at the southwest corner of the parcel, there is a residence located 1,000 feet to the east of the substation site, and a winery located 1,000 feet to the south. The topography of the site is moderately sloped with rolling hills in the vicinity.

The site is bordered by Union Road to the southeast, PG&E's existing easement for a 230 kV double-circuit transmission line and a 500-kV transmission line to the northwest, and vineyards under cultivation to the south and northeast. The existing transmission lines traverse along the northwest portion of the Estrella Substation site on two sets of lattice steel towers (LSTs).

2.2.2 Power Line

The new 70 kV power line would travel southwesterly from Estrella Substation, spanning over vineyards, and crossing under and paralleling existing 230 kV and 500 kV transmission lines for approximately 0.5 mile. North of Union Road, the new line turns westerly and joins an existing 12 kV overhead distribution line, which becomes an underbuild[4] on the new structures. The new

[4] Distribution underbuild is a lower voltage distribution line placed underneath a higher voltage power line on the same structure or set of structures.

line follows existing distribution lines for about 2.5 miles, extending through vineyards and large residential properties on the north side of Union Road, and then turning northwesterly and crossing Huer Huero Creek and continuing along the north side of Union Road.

Note that a possible Minor Route Variation (MRV) is under consideration at roughly the location where the new 70 kV power line would cross Huer Huero Creek along Union Road. This MRV would only be implemented if a possible golden eagle nest along Huer Huero Creek in this location is confirmed to have eagles present prior to Project construction.

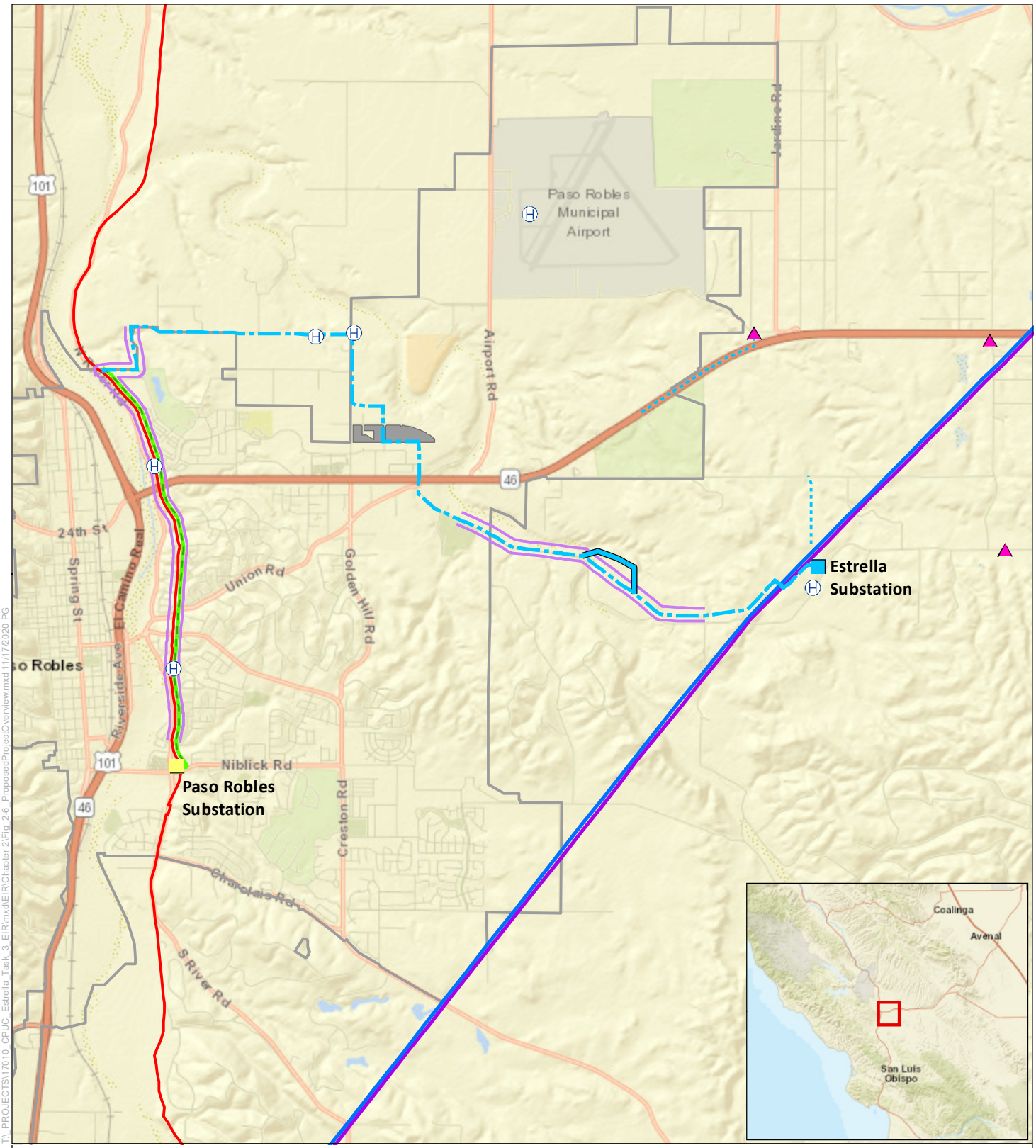
Near the Paso Robles Sports Club, the new 70 kV power line segment leaves the existing distribution alignment and crosses to the southwesterly side of Union Road. The new line continues in a northwesterly direction, crossing SR-46, and then generally traveling westerly for approximately 0.5 mile to Golden Hill Road. At Golden Hill Road, the route heads northerly along the Golden Hill Road alignment for approximately 1 mile and adjacent to the existing light industrial uses to the east and existing residences to the west. The new line then continues generally westerly for approximately 1.5 miles and then southwesterly for 0.5 mile to River Road, adjacent to existing residences, vineyards, and other agricultural uses. At River Road, the new 70 kV power line segment would interconnect with the existing San Miguel-Paso Robles 70 kV power line.

The existing San Miguel-Paso Robles 70 kV power line would then be reconductored south to Paso Robles Substation. This 3-mile-long reconductoring segment runs behind and through predominantly residential areas, extending south along the existing pole line alignment on the easterly side of River Road for about 1 mile, crossing SR-46. The segment then continues southerly for about 2 miles, crossing Union and Creston Roads, then into Paso Robles Substation.

2.2.3 Reasonably Foreseeable Distribution Components

The timing of construction of the distribution components is not known but is expected within 15 years. Based on the most recent load growth forecast (see Figure 2-5), the distribution components of the Proposed Project are not presently needed and are not planned to be constructed at the same time as the rest of the Proposed Project. However, if subsequent load growth forecasts show the need arising sooner or if applications are made for new large block loads, the timing of construction of the distribution components could accelerate.

The reasonably foreseeable new distribution line segments would be installed along an existing unpaved road through agricultural fields and along existing roadways. From Estrella Substation, a new distribution line segment would extend north approximately 0.6-mile along an unpaved road to Mill Road, where it would connect with an existing 21 kV circuit. The second new distribution line segment would follow SR-46 for approximately 1.1 mile and would fill in a gap in the existing distribution network. This portion of SR-46 is largely rural in nature, with the Hunter Ranch Golf Course and agricultural parcels bordering the highway on the south. Reconductoring of existing distribution lines would occur in rural areas of San Luis Obispo County and within portions of the City of Paso Robles.



Source: ESRI 2020, NEET West and PG&E 2017

N

0 0.25 0.5 Miles

Horizon WATER and ENVIRONMENT

Proposed Project

- Estrella Substation
- 70kV Route
- New Distribution Line Segments
- 70 kV Minor Route Variation 1
- Reconductoring Segment
- Distribution Underbuild
- Power Line Staging Areas
- Helicopter Landing Zones
- Additional 21/12 kV Pad-Mounted Transformer
- Paso Robles city limits

Existing Infastructure

- Existing 500 kV Transmission Line
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line
- Existing Substations

Note: Eight miles of distribution line segments would be reconductored in various locations to integrate the proposed substation. PG&E did no specify each location.

Figure 2-6
Proposed Project Location and Overview

Estrella Substation and Paso Robles Area Reinforcement Project

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2.3 Proposed Project Components

The Proposed Project is comprised of two main components: Estrella Substation and the 70 kV power line. Each of these main components has several subcomponents, which are described below. The reasonably foreseeable distribution components and ultimate substation buildout are also described below.

- Estrella Substation Components:
  - HWT to construct, own and operate a new 230 kV substation with one 230/70 kV three-phase power transformer~~.~~;
  - PG&E to construct, own, and operate a new 70 kV substation including room for reasonably foreseeable 70/21 kV distribution facilities~~.~~; and
  - PG&E to construct, own and operate a new 230 kV transmission line interconnection that will loop the existing ~~Gates~~ Morro Bay-California Flats 230kV transmission line into Estrella Substation.
- 70 kV Power Line Components:
  - PG&E to construct, own and operate a new 70 kV double-circuit power line between the new 70 kV substation and the existing San Miguel-Paso Robles 70 kV power line~~.~~; and
  - PG&E will reconductor and replace poles on a portion of the existing 70 kV power line between the interconnection point of the new 70 kV power line segment and Paso Robles Substation.
- Reasonably Foreseeable Distribution Components:
  - Establish three new 21 kV distribution feeders connecting from Estrella Substation to the existing distribution system, including:
    - Installing a new 30 megavolt amperes (MVA), 70/21 kV three-phase power transformer in the 70 kV substation~~.~~;
    - Constructing 1.7 mile of new distribution line to fill in gaps in future Estrella Feeder #2~~.~~;
    - Installing three new 21/12 kV pad-mounted transformers~~.~~;
    - Reconductoring approximately 8 miles of existing distribution circuits to facilitate integration of the new Estrella feeders~~.~~; and

- Ultimate Substation Buildout:
  - Establish additional 70 kV lines and 21 kV distribution feeders[5], as needed to meet future distribution demand and transmission needs, including the following activities within or adjacent to the Estrella Substation:
    - Constructing an additional 230 kV interconnection between the 230 kV substation and the adjacent 230 kV transmission line~~.~~;
    - Installing an additional 230/70 kV transformer with associated breakers and switches~~.~~; and
    - Installing up to three additional 70/21 kV transformers with associated 70 kV breakers, 21 kV breakers, and switches.

A common neutral[6] would be collocated along the entire length of the 70 kV power line from Estrella Substation to Paso Robles Substation. A fiber optic line for communication services would be installed on the 70 kV power line to provide a fiber optic link between Estrella Substation and Paso Robles Substation.

The Proposed Project components, including estimated permanent ground disturbance acreages, are summarized in Table 2-5.

Table 2-5. Proposed Project Components Summary

Component	Approximate Quantity	Approximate Height Range and Average Height (Feet Above Ground)	Total Approximate Permanent Ground Disturbance (Acres)
Estrella Substation[1]			
Substations			
230 kilovolt (kV) Substation	1	65 (approx. tallest 230 kV dead-end structure)	4.0 (fenced portion)
70 kV Substation	1	37 (approx. tallest 70 kV dead-end structure)	3.5 (fenced portion)

[5] The routes of any future 70 kV power lines and 21 kV distribution lines that could be installed as part of the ultimate Estrella Substation buildout are unknown at this time. As a result, the potential environmental effects associated with the power and distribution lines are not evaluated in this DEIR. The additional equipment within Estrella Substation at ultimate buildout is included in the DEIR's evaluation.

[6] A common neutral conductor runs the entire length of the line from substation to substation where it attaches to the substation ground grids.

Component	Approximate Quantity	Approximate Height Range and Average Height (Feet Above Ground)	Total Approximate Permanent Ground Disturbance (Acres)
230 kV Transmission Line Interconnect			
Lattice Steel Towers	6	39–113 68	0.2
70 kV Power Line[2]			
New 70 kV Power Line Segment			
Light-Duty Steel Poles	63	70–110 91	0.3
Tubular Steel Poles	38	68–133 99	0.2
Wood Distribution Poles	1	46	<0.1
Reconductoring Segment			
Light-Duty Steel Poles	40	76–101 85	0.2
Tubular Steel Poles	9	71–108 88	<0.1
Wood Distribution Poles	6	48–62 56	<0.1
Reasonably Foreseeable Distribution Components[3, 4]			
Wood Distribution Poles	31	40–50 45	<0.1
21/12 kV Pad-Mounted Transformers	3	10	<0.1

Notes: kV = kilovolt;

1. Permanent ground disturbance for Estrella Substation is approximately 15 acres, including the area that would be permanently disturbed outside of the 230 kV and 70 kV substation fence lines.
2. Permanent ground disturbance for the 70 kV power line route assumes a 10-foot radius around each pole location supporting distribution equipment in grassland areas.
3. Installation of the 70/21 kV transformer and associated equipment within the Estrella Substation to support the reasonably foreseeable distribution components would not result in any new permanent ground disturbance, as it would be installed within the fence line of the substation. Reconductoring of existing distribution lines also would not result in new permanent ground-disturbance.
4. With respect to ultimate substation buildout, installation of additional transmission and distribution transformers and associated equipment within the 70 kV and 230 kV substations is assumed to not result in any additional permanent ground disturbance nor increase the height of

the substation. The additional 230 kV interconnection associated with ultimate substation buildout could result in similar ground disturbance to that described for the Proposed Project (see "230 kV Interconnect" within the table).

Source: NEET West and PG&E 2017

Figure 2-7 shows a detailed view of the Proposed Project substation and 70 kV power line components, including construction temporary impact areas (see Section 2.5.2 for discussion of temporary impact areas). As noted in Section 2.2.2, an MRV for the new 70 kV power line is under consideration to avoid a possible golden eagle nest along Huer Huero Creek near Union Road. Figure 2-8 shows this MRV in detail. Additionally, Figure 2-9 shows the reasonably foreseeable new Estrella distribution circuits (or "feeders") that are anticipated as part of the Proposed Project. Figure 2-10 shows a detailed view of the reasonably foreseeable distribution line segments and pad-mounted transformers that would need to be constructed to establish the Estrella feeders.

2.3.1 Estrella Substation

Estrella Substation would be comprised of two separate and distinct substations located on ~~an~~ approximately 15-acres within a 20-acre site. One 230 kV substation would be constructed and operated by HWT and one 70 kV substation would be constructed and operated by PG&E. The preliminary substation layout is provided in Figure 2-11.

Access to the Estrella Substation site would be off of Union Road, along a new private access road. The access road would be paved up to the second entrance to the 70 kV substation (approximately ~~715~~700 feet) and have an aggregate-surface up to the 230 kV substation access point and the 70 kV substation would have two separate access points. The entrance gates would be a minimum 16 feet in width and would be locked and monitored remotely to limit access to qualified personnel. Warning signs would be posted on the perimeter chain-link fencing and gates, in accordance with the National Electric Safety Code (NESC) and the respective HWT and PG&E guidelines.

Lighting would be installed at Estrella Substation and would conform to NESC requirements. NESC recommends, as good practice, illuminating the substation facilities to a minimum of 22 lux or 2 foot-candles. Lighting would consist of sodium vapor or light-emitting diode (LED) fixtures and would be installed inside the facility and at the entry/exit gates to allow for safe access to the facility and its equipment. The fixtures would be mounted on legs of dead-end or switch support structures, the control enclosure, and on approximately 12-foot-tall galvanized steel lighting poles. Lights would be controlled by a photocell that automatically turns the lights on and off. All on-site lighting would be oriented downward to minimize glare onto surrounding property. Additional manually controlled lighting would also be provided to create safe working conditions at the substation when required. The exact number of fixtures and their output and location would be determined during final facility design.

The 230 kV and 70 kV substations would have their own sources of station power. Power would be supplied by tapping into the existing PG&E ~~Gates~~ Morro Bay-California Flats 230kV transmission~~power~~ line adjacent to the HWT substation site. Electric service would be requested from the local utility and applied for so that power can be served from the existing power lines adjacent to the station.

The existing telecommunications network would connect to Estrella Substation by splicing optical ground wire (OPGW) on the nearby existing 230 kV towers and installing a fiber optic line for communication services on the power line between Estrella and Paso Robles Substations. The communication cables would transition from the last 230 kV tower or 70 kV pole outside of the substation and enter a pull/splice box positioned near the base of each structure. From each pull/splice box, the fiber optic cable would transition underground in 4-inch conduits to the substation. All pull/splice boxes used for telecommunication cable would be 3-foot by 5-foot pre-cast polymer concrete.

230 kV Substation

The 230 kV substation would be owned and operated by HWT. The preliminary configuration for the 230 kV substation (general arrangement and profile view) is provided in Figure 2-12 and Figure 2-13. The tallest structures within the 230 kV substation would be the dead-end structures, which are approximately 65 feet high and 50 feet wide.

The following electrical equipment would be located within the fenced area of the 230 kV substation in the proposed configuration:

- Two 230kV Breaker and a Half bays and two operating buses;
- One three-phase 230/70 kV 200 MVA transformer;
- Twelve 230 and three 70 kV capacitive voltage transformers;
- Thirteen 230 kV and one 70 kV group operated air break switches;
- Five 230 kV and one 70 kV sulfur hexafluoride (SF_6) insulated circuit breakers;
- Eight 230 kV and one 70 kV dead-end steel structures;
- Nine 230 kV and three 70 kV lightning surge arresters; and
- A protection and control enclosure measuring about 50 feet long, 15 feet wide, and 15 feet high would be installed on 10 concrete piers measuring about 11 feet deep. The control enclosure would have redundant air conditioning units installed to protect electronic components.

Mill Rd
Mill Rd
Mill Rd
Dry Creek
Dry Creek
Steinbeck
Winery
Union Rd
Union Rd
Estrella
Substation
Union Rd
Union Rd
Pear Valley
Winery
3in Winery
5
4
3
2
1
6
7
8
N

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500
Feet

Horizon
WATER and ENVIRONMENT

Alignment Components
- 70kV Route
- New Distribution Line Segments
- New 70kV Poles

Substation Components
- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas
- Helicopter Landing Zones
- Access Routes
- Substation Temporary Disturbance Area
- Temporary Pull Sites
- Pole Temporary Work Area

Existing Infrastructure
- 70kV Route
- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 1 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500

Feet

Horizon WATER and ENVIRONMENT

Alignment Components

- 70kV Route
- 70 kV Minor Route Variation 1
- New 70kV Poles
- Existing Distribution Pole to be Replaced
- Distribution Underbuild

Substation Components

- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas

- Temporary Crossing Structure Work Area
- Access Routes
- Temporary Pull Sites
- Pole Temporary Work Area

Existing Infrastructure

- 70kV Route
- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 2 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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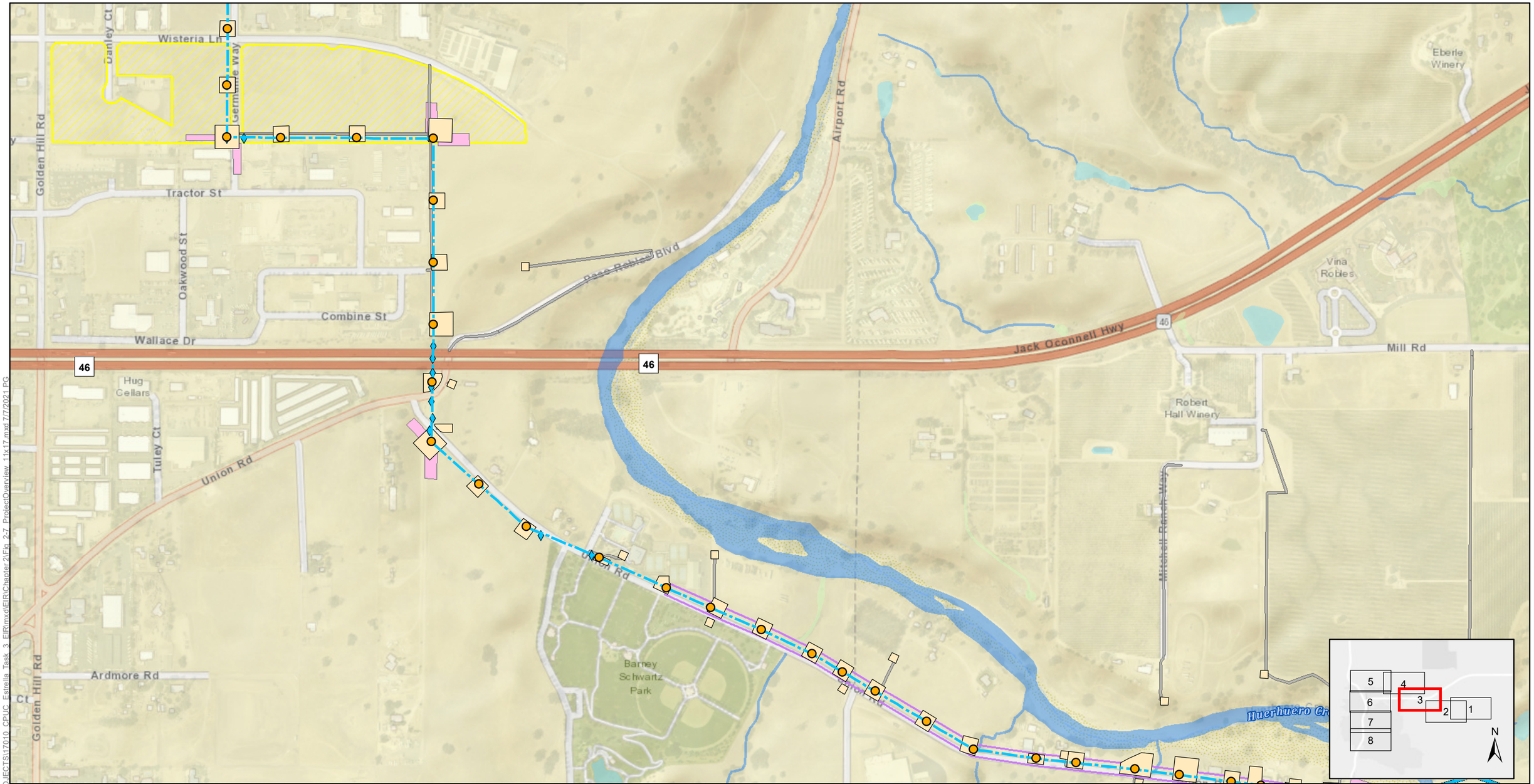

Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500

Feet

Horizon WATER and ENVIRONMENT

Alignment Components

- 70kV Route
- 70 kV Minor Route Variation 1
- New 70kV Poles
- Distribution Underbuild

Substation Components

- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas

- Temporary Crossing Structure Work Area
- Access Routes
- Temporary Pull Sites
- Power Line Staging Area
- Pole Temporary Work Area

Existing Infrastructure

- 70kV Route
- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 3 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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Cava Robles
RV Park
(aerial outdated)

Paso Robles
Horse
Park

Huerhuero Creek

Hughes Pkwy

Airport Rd

Lake Pl

Circle B Rd

Remington Ct

Golden Hill Rd

Rafter Way

Dallons Dr

Cuesta
College-North
County

Ayres

Danley Ct

Wisteria Ln

Germaine Way

Tractor St

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500
Feet

Horizon
WATER and ENVIRONMENT

Alignment Components
- 70kV Route
- New 70kV Poles

Substation Components
- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas
- Temporary Crossing Structure Work Area
- Helicopter Landing Zones
- Access Routes
- Temporary Pull Sites
- Power Line Staging Area
- Pole Temporary Work Area

Existing Infrastructure
- 70kV Route
- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

5 4 3 2 1
6
7
8
N

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 4 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500
Feet

Horizon WATER and ENVIRONMENT

Alignment Components
- 70kV Route
- New 70kV Poles
- Existing 70 kV Pole to be Replaced
- Reconductoring Segment
- Distribution Underbuild

Substation Components
- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas
- Temporary Crossing Structure Work Area
- Access Routes
- Temporary Pull Sites
- Pole Temporary Work Area

Existing Infrastructure
- 70kV Route
- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 5 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500

Feet

Horizon WATER and ENVIRONMENT

Alignment Components

- Existing 70 kV Pole to be Replaced
- Reconductoring Segment
- Existing Distribution Pole to be Replaced
- Distribution Underbuild

Substation Components

- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas

- Temporary Crossing Structure Work Area
- Helicopter Landing Zones
- Access Routes
- Temporary Pull Sites
- Pole Temporary Work Area

Existing Infrastructure

- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 6 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500

Feet

Horizon WATER and ENVIRONMENT

Alignment Components

- Existing 70 kV Pole to be Replaced
- Reconductoring Segment
- Existing Distribution Pole to be Replaced
- Distribution Underbuild

Substation Components

- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas

- Temporary Crossing Structure Work Area
- Helicopter Landing Zones
- Access Routes
- Temporary Pull Sites
- Power Line Staging Area
- Pole Temporary Work Area

Existing Infrastructure

- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory

- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 7 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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Basebap Sources: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

N

0 125 250 500

Feet

Horizon WATER and ENVIRONMENT

Alignment Components

- Existing 70 kV Pole to be Replaced
- Reconductoring Segment
- Distribution Underbuild

Substation Components

- Substation Interconnection
- Temporary Shoofly Poles
- Substation Permanent Disturbance Area
- Estrella Substation Parcel

Construction Temporary Disturbance Areas

- Temporary Crossing Structure Work Area
- Helicopter Landing Zones
- Access Routes
- Temporary Pull Sites
- Power Line Staging Area
- Pole Temporary Work Area

Existing Infrastructure

- Existing Substations
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Figure 2-7
Estrella Substation and 70 kV Power Line Components - Detailed View
Sheet 8 of 8

Estrella Substation and Paso Robles Area Reinforcement Project

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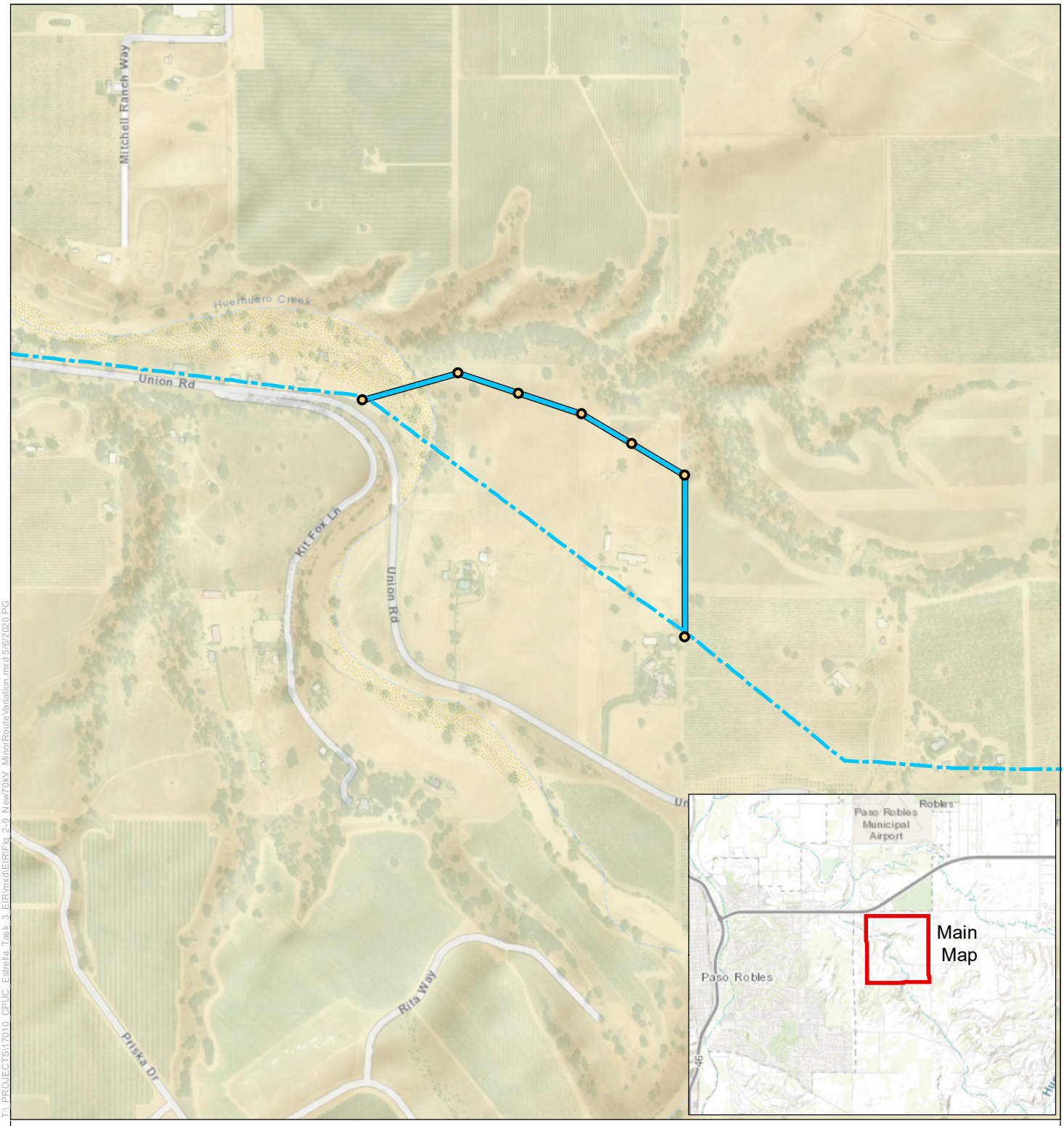

Source: Paso Robles General Plan 2018, PG&E 2019, SWCA 2017

Proposed Project Components

- 70kV Route
- 70 kV Minor Route Variation 1
- Minor Route Variation Poles

N

0 1,000 Feet

Figure 2-8
New 70 kV Power Line Minor Route Variation

Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

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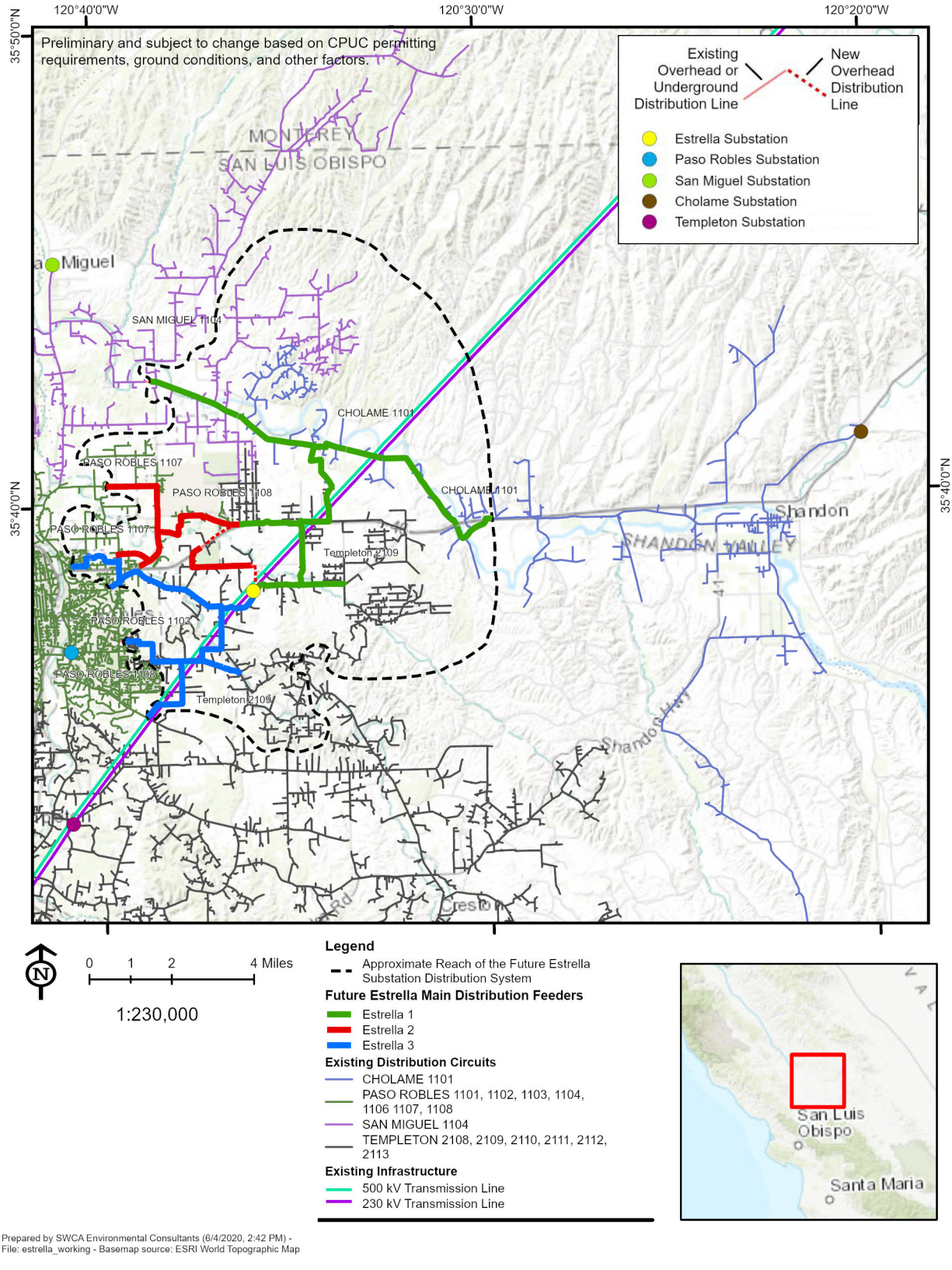
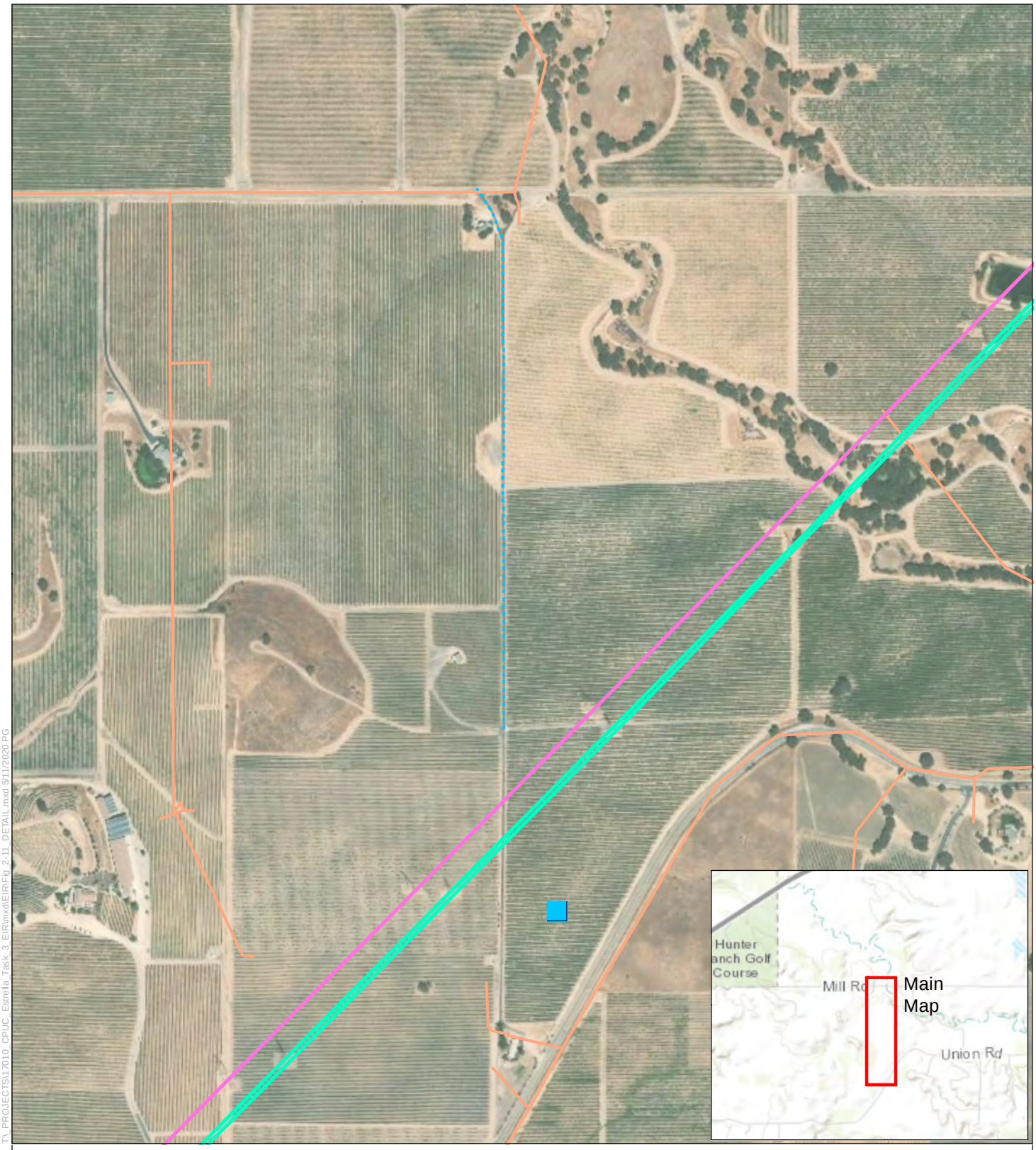


Source: NEET West and PG&E 2020

Figure 2-9.
Reasonably Foreseeable
New Estrella Distribution Circuits

Estrella Substation and Paso Robles Area Reinforcement Project



Source: ESRI 2020, PG&E 2019, SWCA 2017

N

0 300 600
Feet

Proposed Project

- New Distribution Line Segments
- Estrella Substation

Existing Infrastructure

- Existing Overhead or Underground Distribution Line
- 230 kV Transmission Line
- 500 kV Transmission Line

Figure 2-10
New Distribution Line Segments and 21/12 kV Pad-Mounted Transformers - Detail

Horizon WATER and ENVIRONMENT

Source: ESRI 2020, PG&E 2019, SWCA 2017

N

0 300 600
Feet

Proposed Project

- Additional 21/12 kV Pad-Mounted Transformer
- New Distribution Line Segments

Existing Infrastructure

- Existing Overhead or Underground Distribution Line

Figure 2-10
New Distribution Line Segments and 21/12 kV Pad-Mounted Transformers - Detail

Horizon WATER and ENVIRONMENT

Source: ESRI 2020, PG&E 2019, SWCA 2017

N

0 50 100
Feet

Proposed Project

Additional 21/12 kV Pad-Mounted Transformer

New Distribution Line Segments

Existing Infrastructure

Existing Overhead or Underground Distribution Line

Figure 2-10
New Distribution Line Segments and 21/12 kV Pad-Mounted Transformers - Detail

Horizon WATER and ENVIRONMENT

Source: ESRI 2020, PG&E 2019, SWCA 2017

Proposed Project

Additional 21/12 kV Pad-Mounted Transformer

Existing Infrastructure

Existing Overhead or Underground Distribution Line

N

0 50 100

Feet

Figure 2-10

New Distribution Line Segments and 21/12 kV Pad-Mounted Transformers - Detail

Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

Source: ESRI 2020, PG&E 2019, SWCA 2017

N

0 50 100
Feet

Proposed Project

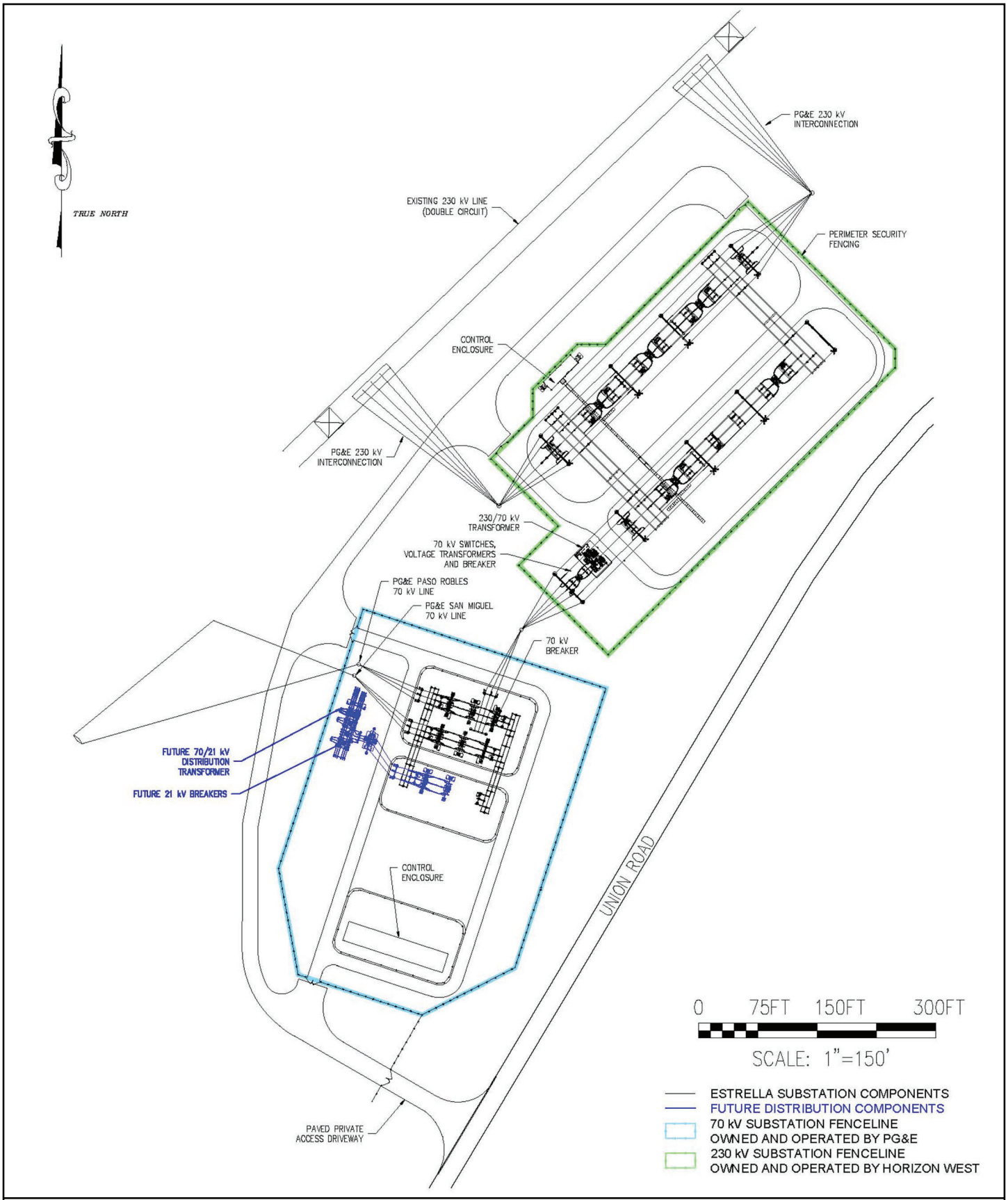
Additional 21/12 kV Pad-Mounted Transformer

Existing Infrastructure

Existing Overhead or Underground Distribution Line

Figure 2-10
New Distribution Line Segments and 21/12 kV Pad-Mounted Transformers - Detail

Estrella Substation and
Paso Robles Area Reinforcement Project

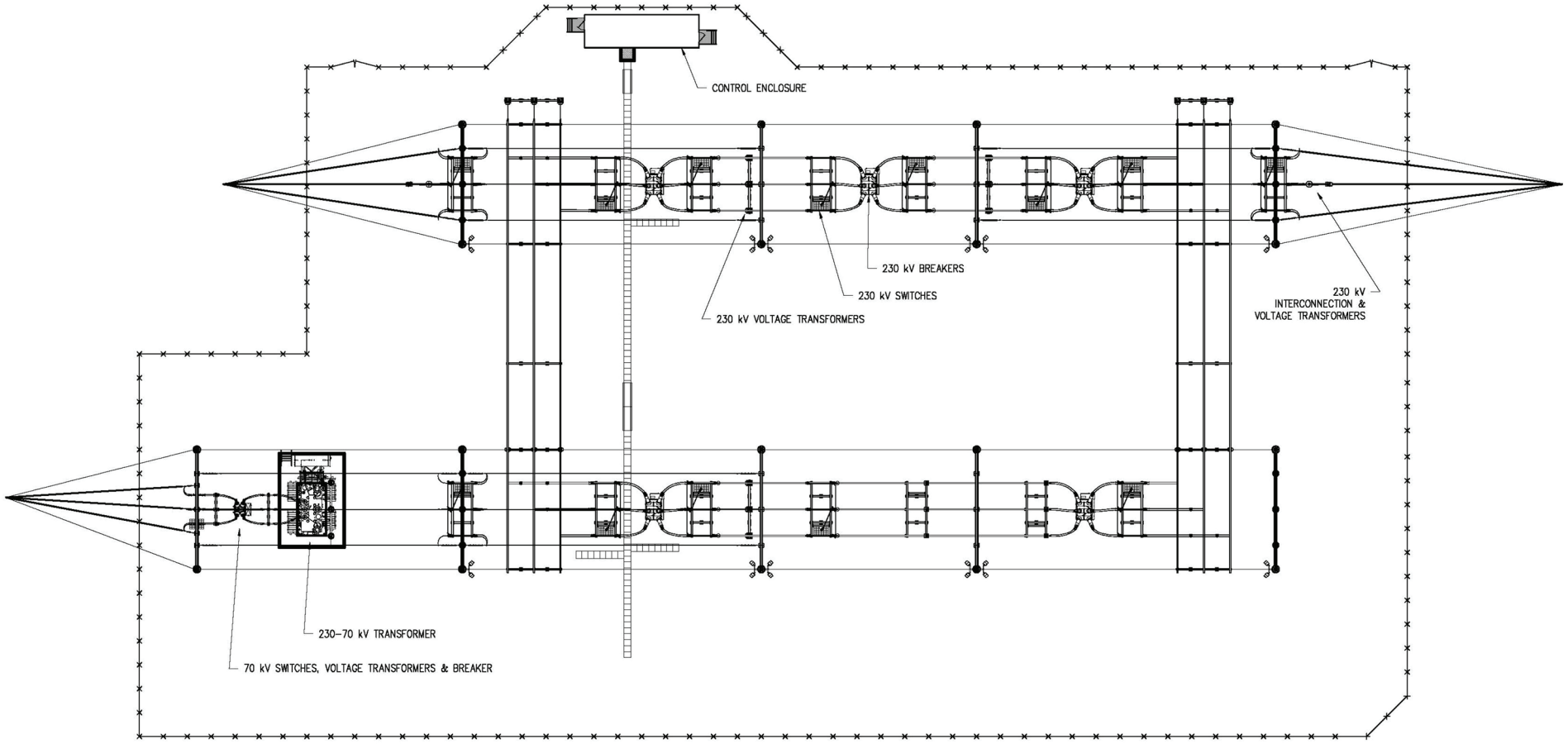


Source: NEET West and PG&E 2021

Figure 2-11.
Preliminary Substation Layout

Prepared by:
Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

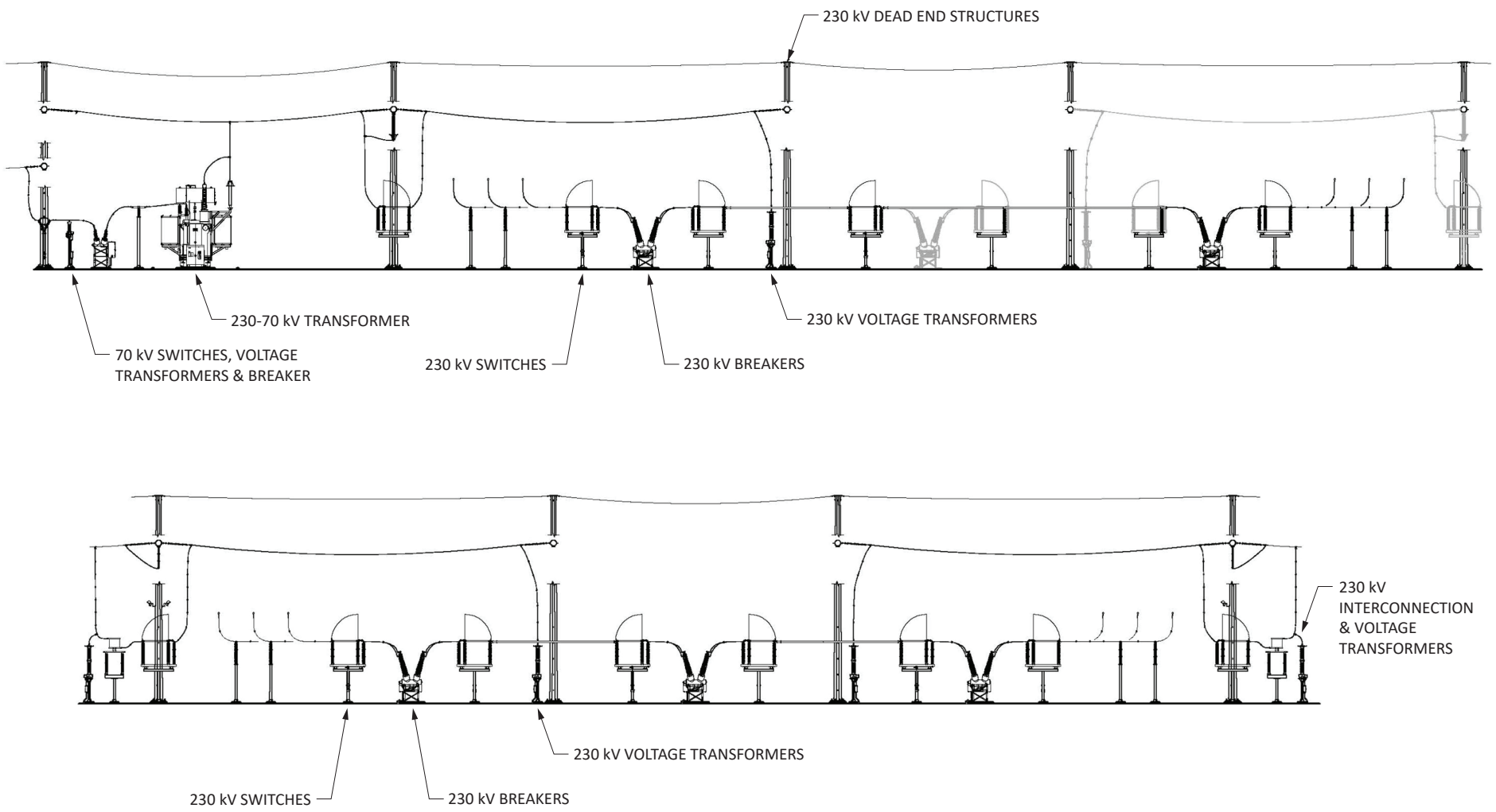


Source: NEET West and PG&E 2021

Figure 2-12.
Proposed 230-kV Substation General Arrangement

Prepared by:
Horizon
WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project



Source: NEET West and PG&E 2021

Figure 2-13.
Proposed 230-kV Substation Profile View

Prepared by:
Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

In addition to the electrical equipment, the 230 kV substation would include the following infrastructure:

- Dark Sky Lighting[7] and signage;
- Telecommunications and distribution feeder line for electrical service;
- Secondary containment for transformer oil spill control on applicable equipment;
- One spare SF_6 filler tank;
- Graveled internal access road; and
- Perimeter security fencing

The fenced portion of the 230 kV substation would be approximately 4 acres in size. A~~n approximately 7-foot-tall~~ chain-link fence, a minimum of 7 feet tall and a maximum of 12 feet tall (~~with an additional~~including ~~1 foot~~1.5 feet of barbed wire), would be installed around the remaining perimeter of the 230 kV substation.

The maximum amount of mineral oil required for the three-phase 230/70 kV transformer would be approximately 16,000 to 18,000 gallons. The mineral oil would be utility grade. The 230 kV substation would be constructed with a concrete secondary containment basin (measuring approximately 45 by 34 by 2.5 feet) to provide mineral oil containment for the transformer and would be designed to allow sufficient freeboard to include the oil volume of the transformer plus the precipitation from a 25-year, 24-hour storm event. Following a storm event, rainwater collected in the containment area would be visually inspected for any contamination before allowing to drain off site through existing drainage swales along Union Road.

The 230 kV substation would connect to existing power and telecommunications located on an existing distribution pole at the northeast corner of the substation site along the edge of Union Road. Electricity would be used for construction (i.e., power construction trailers, lighting, and small hand-held machinery or tools) and operation back-up station service power. The electric power and telecommunication circuits (telephone and T1, either copper or fiber) would be brought to the 230 kV substation on either overhead distribution poles or underground conduits. If overhead, up to six approximately 40-foot-tall wood distribution poles may be constructed between the existing distribution pole and the 230 kV substation. The poles would be direct embedded up to approximately 6 feet. If undergrounded, the back-up power and communications would be brought into the 230 kV substation using up to three underground conduits.

[7] Dark sky lighting refers to lights that comply with the International Dark Sky Association Fixture Seal of Approval Program. Lights compliant with this program are typically shielded on the top and sides so light does not go up to the sky and are only used when needed (use motion detectors and only the wattage necessary). Lights are typically "warm" in color, which is generally considered more yellow or orange/amber than white.

230 kV Transmission Interconnection

The 230 kV transmission line interconnection would be owned and operated by PG&E. It would connect the existing 230 kV transmission line to Estrella Substation in two separate locations: a northern and a southern interconnection (refer to Figure 2-11). The 230 kV interconnection structures include LSTs (lattice steel tower) similar to the existing 230 kV transmission line towers. Figure 2-14 shows a representation of the LSTs to be used for the 230 kV interconnection.

The northern interconnection into Estrella Substation would begin with the replacement of an existing 230 kV LST approximately 200 feet to the northeast along the existing 230 kV transmission line alignment. From there, the northern interconnection would continue southwesterly within the existing 230 kV alignment for approximately 60 feet until reaching a new LST. From this point, the northeasterly interconnection would head southeasterly for approximately 180 feet to a new LST. From this tower, the northern interconnection would head southwesterly, terminating at the northerly 230 kV pulloff structure within Estrella Substation.

The southern interconnection would leave the southerly 230 kV pulloff structure within Estrella Substation, heading southwesterly for approximately 60 feet to a new LST. From this tower, the southern interconnection would head northwesterly for approximately 180 feet to a new LST located in line with the existing 230 kV alignment. From this point, the southern interconnection would follow the existing 230 kV alignment approximately 60 feet southwesterly to a new LST. This final tower would interset in the existing 230 kV conductor and complete the 230 kV interconnection.

The six 230 kV interconnection towers would each be mounted on four individual concrete pier foundations, and their base footprint would vary from 25 by 25 feet to 27 by 20 feet. These towers would be configured with six non-reflective, gray porcelain or clear glass insulator strings to support three individual conductors. Three conductors would be installed on each side of the towers and would be arranged in a vertical configuration. New and replacement LSTs within the existing easement would be configured to carry the existing six individual conductors. The overhead conductor would be attached to the new LSTs using non-reflective, gray porcelain or clear glass insulator strings. Structures and conductors would be installed with separation distance and ground clearance in accordance with CPUC General Order (G.O.) 95.

70 kV Substation

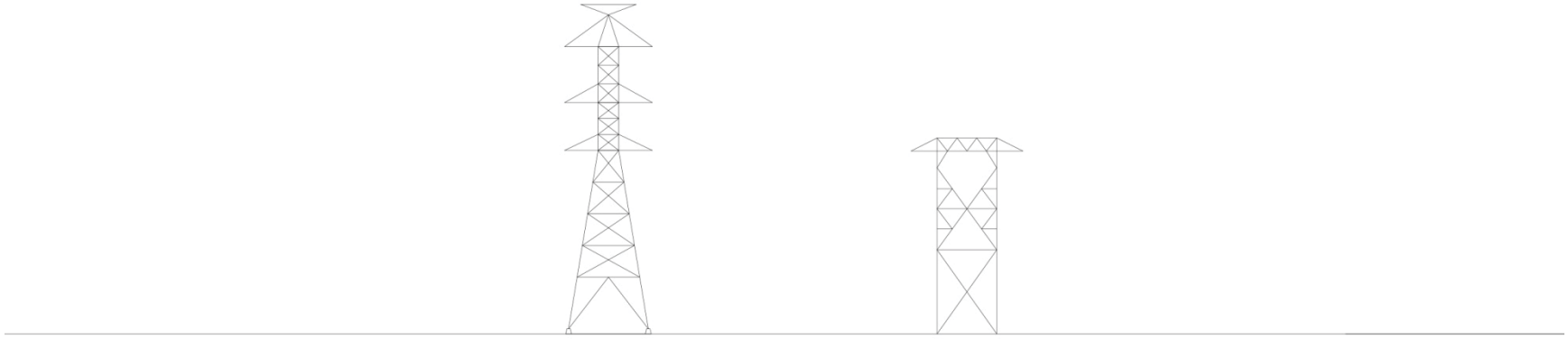
The 70 kV substation would be owned and operated by PG&E. The proposed configuration of the 70 kV substation (general arrangement and profile view) is shown in Figure 2-15 and Figure 2-16. The tallest structures within the 70 kV substation, other than the poles supporting the 70 kV power lines, would be the dead-end structures, which are approximately 37 feet high and 28 feet wide.

The following major electrical equipment would be located within the fenced area of the 70 kV substation in the proposed configuration:

- Two 70 kV aluminum buses;
- Two 70 kV bus voltage transformers;

- Seven line voltage transformers;
- Station service voltage transformer;
- Eleven 70 kV group operated air break switches;
- Five 70 kV SF_6 insulated circuit breakers;
- Nine 70 kV dead-end steel structures;
- Three 70 kV lightning surge arresters; and
- A protection and control enclosure measuring approximately 16 feet wide, 96 feet long, and 11 feet tall would be installed on a concrete pad measuring about 3 feet deep. The exterior of the control enclosure would have an air conditioning unit installed to protect electronic components.

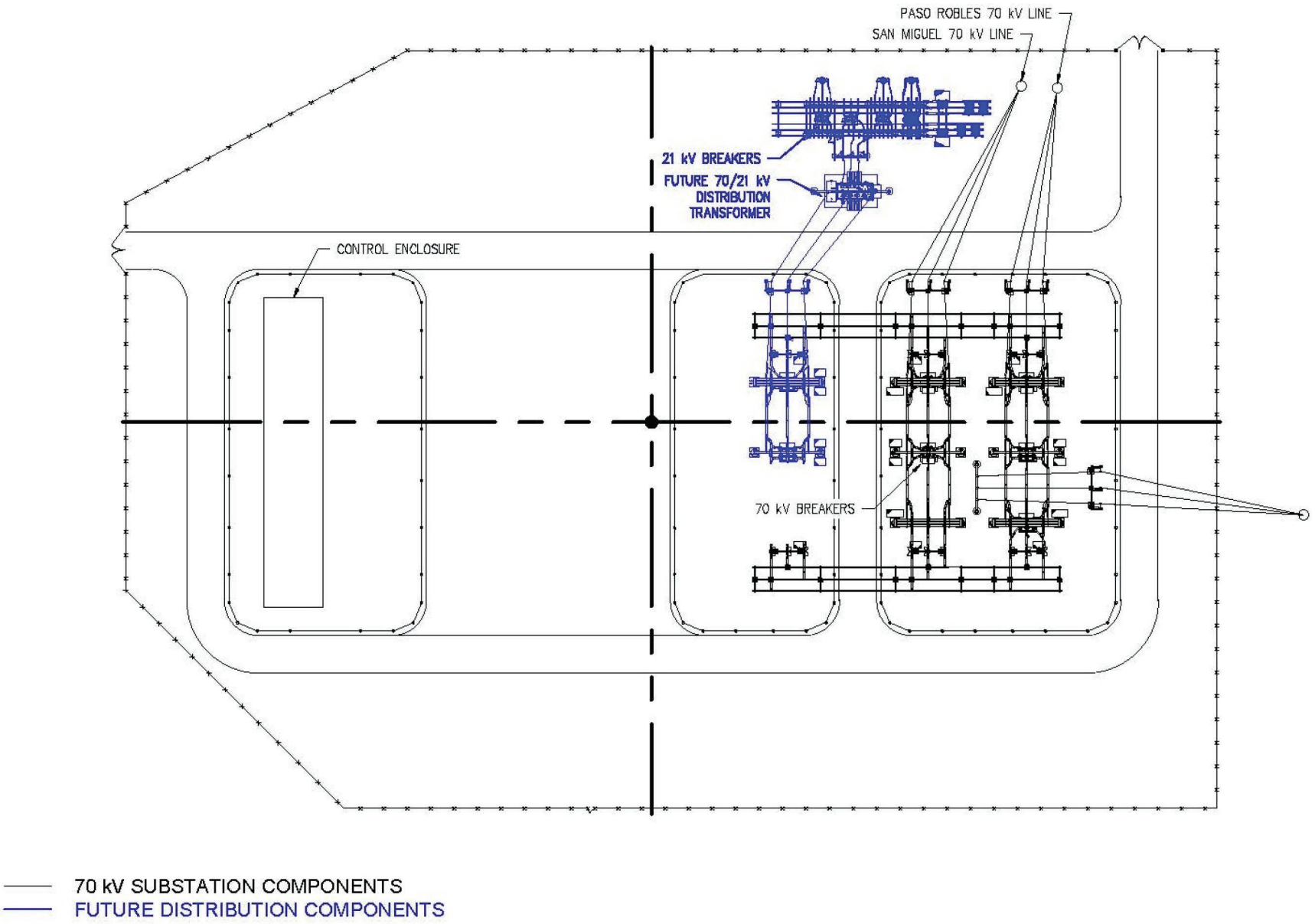
Note: Not to scale. LSTs measure approximately 25 by 25 feet at base.



Source: NEET West and PG&E 2017

Figure 2-14.
Typical Structure Diagram - 230 Kilovolt Interconnection

Estrella Substation and Paso Robles Area
Reinforcement Project

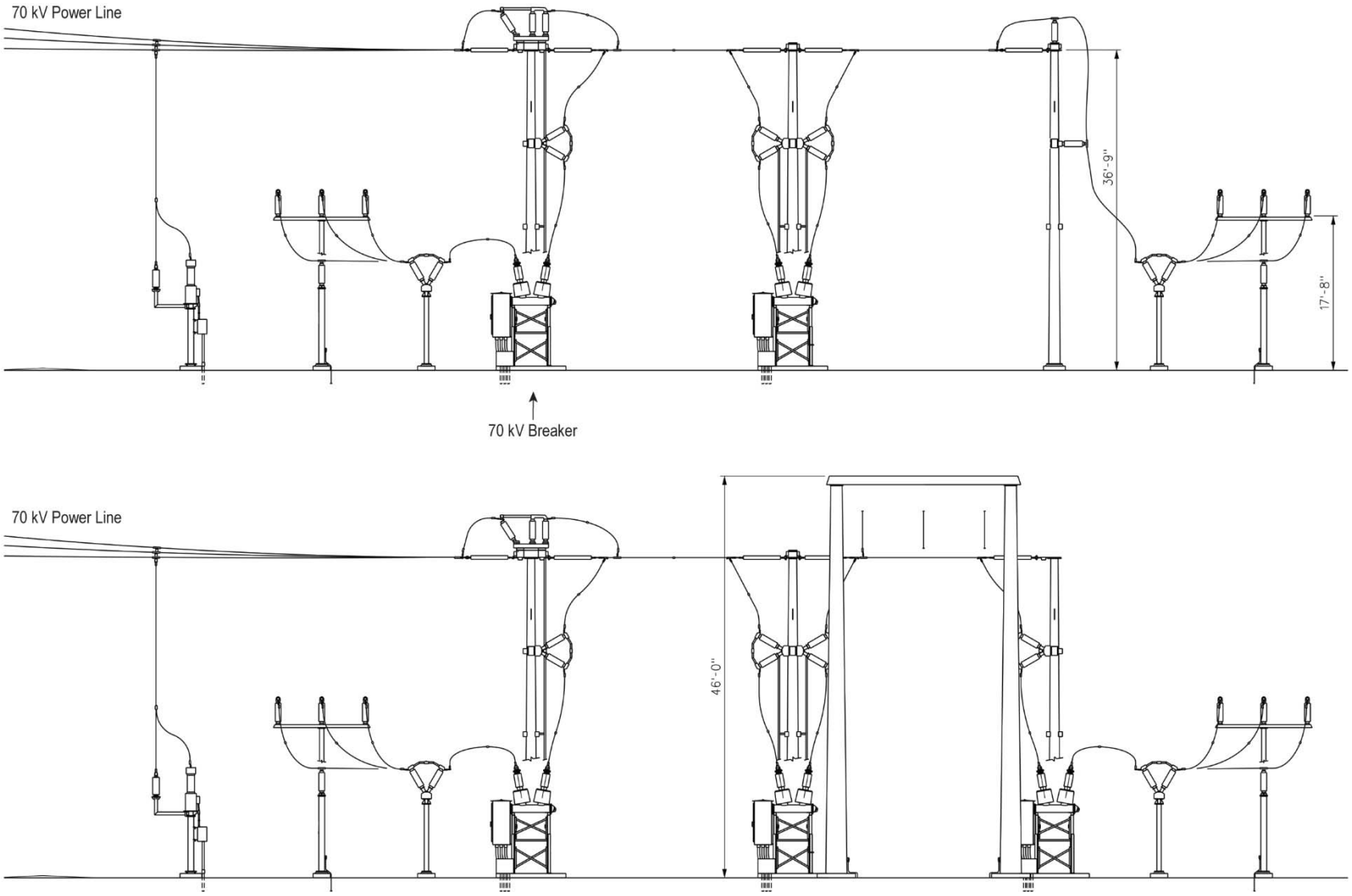


Source: NEET West and PG&E 2021

Figure 2-15.
Proposed 70 Kilovolt Substation General Arrangement

Prepared by:
Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project



Source: NEET West and PG&E 2017

Figure 2-16.
Proposed 70 Kilovolt Substation Profile View

Estrella Substation and Paso Robles Area
Reinforcement Project

In addition to the electrical equipment, the 70 kV substation would include the following infrastructure:

- Dark sky lighting[8] and signage;
- Battery enclosure;
- Paved internal access road;
- Concrete skimmer/weir; and
- Perimeter security fencing.

The fenced portion of the 70 kV substation would measure approximately 3.5 acres within the parcel acquired from HWT. An approximately 8-foot-tall chain-link fence with additional 1-1/2 foot of barbed and concertina wire would be installed around the remaining perimeter of the 70 kV substation.

The 70 kV substation would not store mineral oil. A concrete skimmer and weir device (flow measurement device) would be constructed at the southeast corner of the substation. This concrete device settles and collects sediment that is washed down by stormwater before it is discharged from the substation.

2.3.2 70 kV Power Line

The new 70 kV power line and reconductoring segments would use a combination of tubular steel poles (TSPs) and light-duty steel poles (LDSPs) for support. LDSPs would have a surface treatment designed to render the appearance of a natural weathering of a wood pole. Figure 2-17 shows typical drawings of each structure type.

Power line structures would vary in height depending on their location and purpose, but typically would range between 80 to 90 feet. Table 2-5 contains approximate height range and average height of power line alignment poles by structure type. The approximate distance from the ground to the lowest conductor is 29 feet. In areas where existing metal fences are in close proximity to the power line easement and cannot be replaced with non-conductive fences, wood or composite (fiberglass) poles would be used. These alternative poles may also be used in areas where existing underground utility metal lines are encountered in close proximity to structure locations, such as gas lines.

Both the new 70 kV power line segment and the reconductoring segment would use overhead aluminum electrical conductors, which, when installed, typically have a shiny surface appearance. This “reflective” or “specular” surface can make a power line more noticeable in appearance against the background landscape, and therefore more visible to small aircraft pilots that fly over the area. Observations by PG&E and other utilities indicate that specular conductor transitions to non-specular (i.e., becomes less shiny) in the course of a few seasons after installation. The new conductors would be installed to meet or exceed the minimum separation

[8] Refer to footnote 7 above for discussion of dark sky lighting.

distances and ground clearances in accordance with CPUC G.O. 95 and would meet raptor safety requirements.

A more detailed description of the required structures and the associated conductors for the new 70 kV power line and reconductoring segment is provided below.

New 70 kV Power Line Segment

The new 70 kV power line segment would consist of approximately 7 miles of double-circuit 70 kV power line on a combination of two types of structures: TSPs and LDSPs. TSPs would be utilized for the portion of the line that would be installed within the existing PG&E transmission corridor. In general, the TSPs would be installed adjacent to existing 500 kV transmission line towers, utilizing an average span length of approximately 650 feet. Each TSP would be installed on one individual concrete pier foundation.

The remainder of the new 70 kV power line segment would utilize both TSPs and LDSPs. These structures would typically be used in locations where the new 70 kV power line segment is not parallel to the existing 500 kV transmission line. TSP structures would be installed generally in locations where the alignment changes direction. The route would utilize an average span length of approximately 300 to 500 feet.

Structures along the new 70 kV power line segment would be configured with six individual aluminum conductors, measuring up to 1.25-inch diameter, and an underhung fiber optic cable, measuring up to 0.75 inch in diameter. Three conductors would be installed on each side of the structures and would be arranged in a vertical configuration. The overhead conductor would be attached to the structures using six post insulators or insulator strings (three per circuit) for tangent configurations, and up to 12 insulator strings (six per circuit) for dead-end configurations.

Reconductoring Segment

Reconductoring and pole replacement would occur on approximately 3 miles of single-circuit 70 kV power line using a combination of TSPs and LDSPs. LDSPs would typically be used in locations where the alignment is generally straight, and either guyed[9] LDSPs or TSPs would be used in locations where the alignment changes direction or where distribution tap spans are supported on line structures.

Anchors and guy wires would be attached to LDSPs and/or wood poles in locations where additional stability is required to support the conductor tension. The new replacement poles would typically be installed within 10 feet of the existing poles, which would result in a typical pole span length of approximately 300 feet.

[9] A guy is a tensioned cable designed to add stability to a free-standing structure. One end of the guy is attached to the structure, and the other is anchored to the ground at some distance from the pole or tower base. The tension in the diagonal guy-wire, combined with the compression and buckling strength of the structure, allows the structure to withstand lateral loads such as wind or the weight of cantilevered structures.

Replacement poles along the reconductoring segment would be configured to continue to carry three existing aluminum conductors, measuring about 1.25 inch in diameter, and an underhung fiber optic cable, measuring up to 0.75 inch in diameter. The conductor would be attached to the poles using three insulators for tangent configurations and six insulators for dead-end configurations.

Distribution Lines and Common Neutral

In locations where existing distribution lines are located in close proximity to the 70 kV power line alignment, the distribution conductors may be collocated on the power line structures. The existing conductors would typically be transferred to the new pole line as a distribution underbuild; however, in locations where the existing conductors are not able to be transferred, they would be replaced with an equivalent conductor. In addition, to meet PG&E power line design standards, a common neutral would be collocated along the entire length from Estrella Substation to Paso Robles Substation.

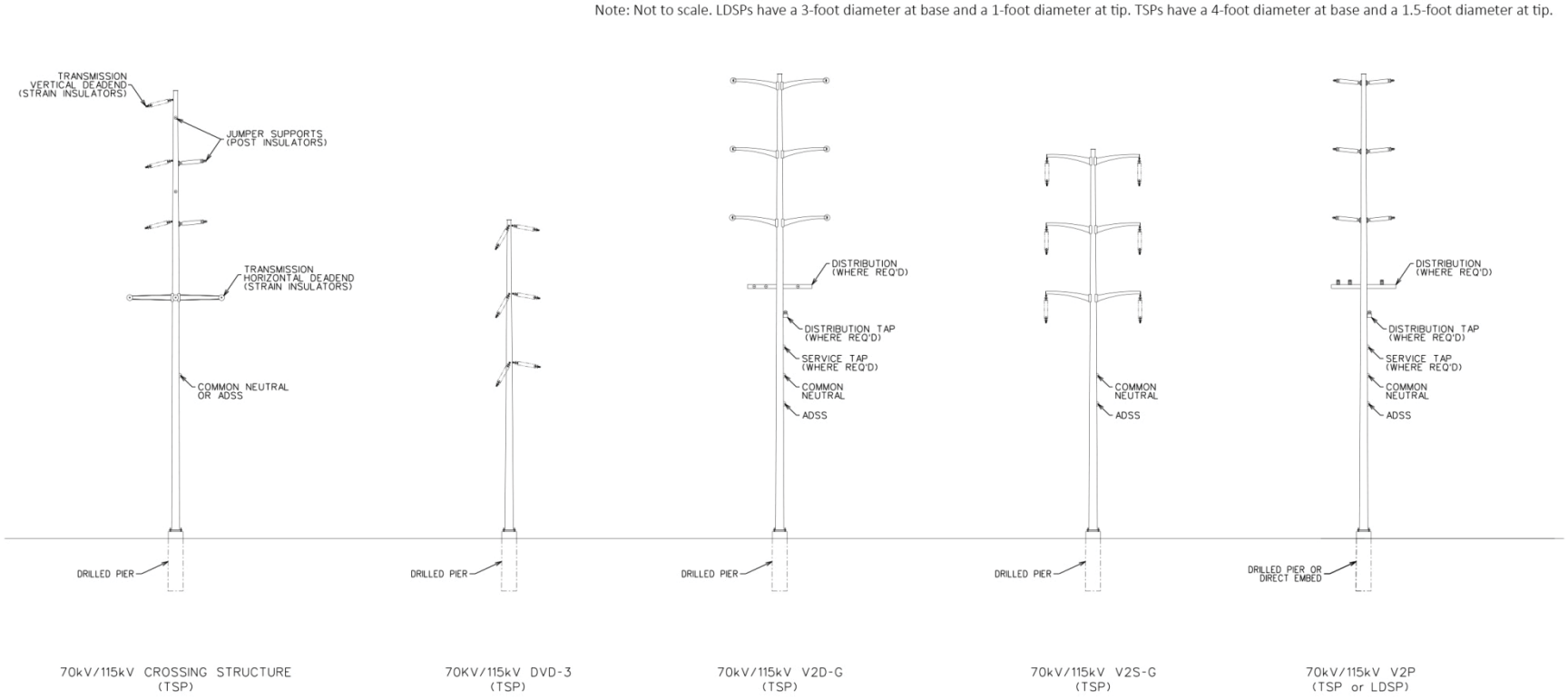
2.3.3 Reasonably Foreseeable Distribution Components

Given that new overhead distribution lines are typically supported by 18 poles per mile, the 1.7 miles of reasonably foreseeable new distribution line would require about 31 new wood poles. It is possible that some existing poles also would need to be replaced to support the reconductored circuits. New wood poles would likely be direct-bury poles (not requiring a foundation) and would require approximately 3 square feet of permanent ground disturbance per pole. The 70/21 kV transformer that would be installed within the 70 kV portion of the Estrella Substation as part of the reasonably foreseeable distribution components would include mineral oil and a concrete secondary containment basin.

2.3.4 Ultimate Substation Buildout

The equipment and facilities associated with ultimate substation buildout would primarily be placed within the fence line of the already-constructed Estrella Substation. The anticipated layout of the Estrella Substation at ultimate buildout is shown in Figure 2-18. The additional 230/70 kV transformer under ultimate buildout is assumed to include the same amount of mineral oil (16,000 to 18,000 gallons) as described for the Proposed Project (see Section 2.3.1), and the same secondary containment structure (i.e., designed to allow sufficient freeboard to include the oil volume of the transformer plus the precipitation from a 25-year, 24-hour storm event). The additional 230 kV interconnection is assumed to include similar structures (LSTs) and follow a similar interconnection process to that described for the Proposed Project in Section 2.3.1 under the header for “230 kV Transmission Interconnection.” The additional 70/21 kV transformers that may be installed to support additional distribution feeders are assumed to include secondary containment, as necessary to contain spills of any stored mineral oil.

While ultimate buildout of the Estrella Substation could add six additional distribution feeders (for a total of nine from the substation), as well as additional 70 kV power lines, the routes, lengths, and associated characteristics of these components are unknown at this time.

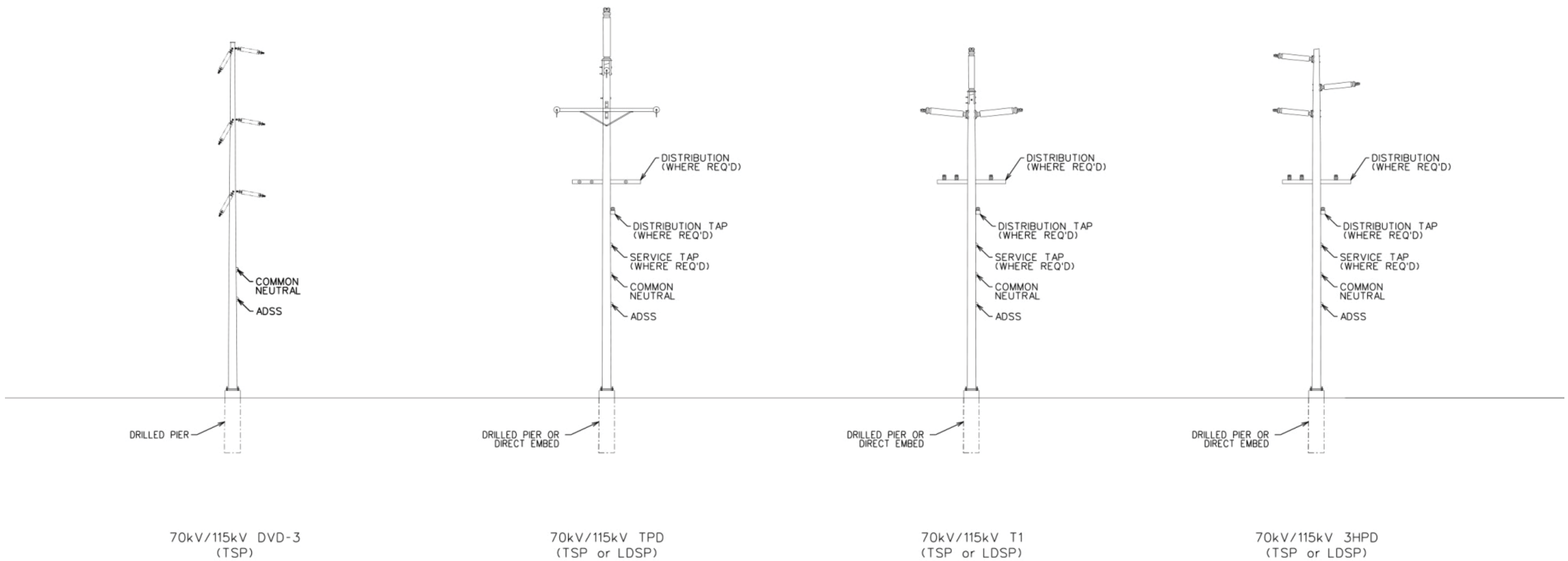


Source: NEET West and PG&E 2017

Figure 2-17.
Typical Structure Diagrams - New 70 Kilovolt Power Line
(sheet 1 of 2)

Estrella Substation and Paso Robles Area Reinforcement Project

Note: Not to scale. LDSPs have a 3-foot diameter at base and a 1-foot diameter at tip. TSPs have a 4-foot diameter at base and a 1.5-foot diameter at tip.

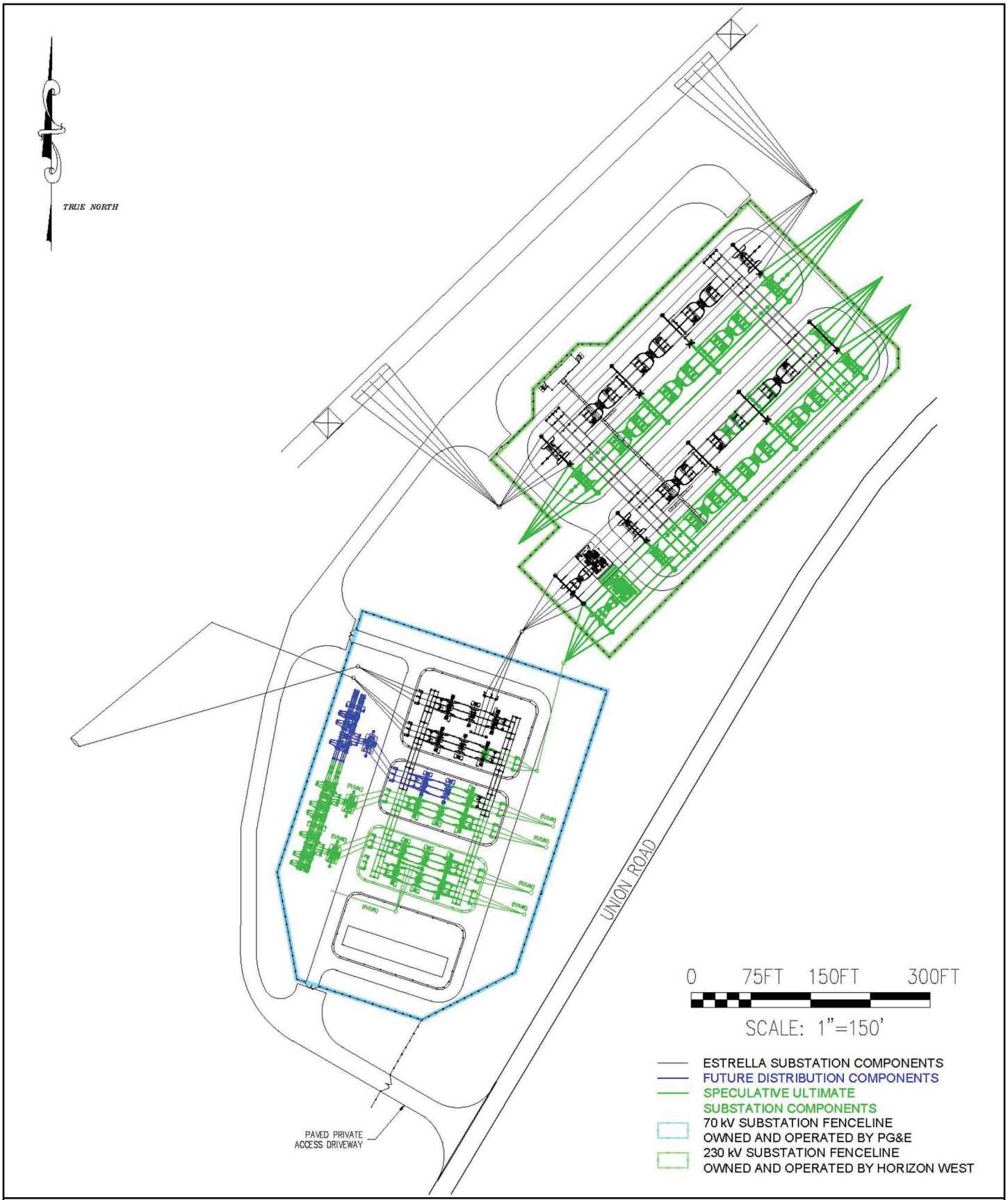


Source: NEET West and PG&E 2017

Figure 2-17.
Typical Structure Diagrams - Reconductoring Segment
(sheet 2 of 2)

Prepared by: Horizon Water and Environment

Estrella Substation and Paso Robles Area Reinforcement Project



Source: NEET West and PG&E 2021

Figure 2-18.
Ultimate Substation Buildout

Prepared by:
Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

2.3.5 Other Substation Modifications

Minor modifications within five existing area substations would be required for the Proposed Project. These modifications include installation and reconfiguration of system protection equipment and/or adjusting relays, and reprogramming supervisory control and data acquisition (SCADA) and telemetry equipment. In addition, the fiber optic telecommunications cable extending from Estrella Substation to Paso Robles Substation along the new 70 kV line will require new network and telecommunications equipment at Paso Robles Substation. The modifications would be made within existing substation fence lines at California Flats Switching Station and Morro Bay, San Miguel, and Templeton substations, while minor excavation outside the fence line of Paso Robles Substation may be required for the telecommunication connection. Table 2-6 below provides a summary of the modifications required at each substation.

Table 2-6. Other Substation Modifications Summary

Substation	Improvements
California Flats 230 kilovolt (kV) Switching Station	Remove outdoor wave trap equipment and existing Morro Bay-California Flats 230 kV protection, and install new protection relays and related equipment within the existing control building. Remove existing relays and install dual-line differential protection relays on the existing Morro Bay-California Flats line to match new Estrella Substation terminal for permissive overreaching transfer tip (POTT) high-speed protection. Install regenerative catalytic oxidizer (RCO) switches, local/remote, and circuit breaker (CB) control through replaced CB relay. Provide breaker failure relay protection.
Morro Bay 230 kV Substation	Remove wave trap equipment. Remove existing relays and install dual-line differential protection relays at CB 482 to match new Estrella Substation terminal for POTT high-speed protection. Install RCO switches, local/remote, and CB control through replaced CB relay. Provide breaker failure relay protection.
Templeton 230/70 kV Substation	Install reverse power relay on the existing Templeton 230 / 70 kV #1 transformer banks to prevent the 70 kV system from feeding the 230 kV system.

Substation	Improvements
San Miguel 70 kV Substation	Remove existing directional overcurrent electro-mechanical relays at CB 22 breaker relay panel. Install two line protection relays in CB 22 relay panel to match new Estrella Substation terminal for step-distance protection. Provide breaker failure relay and reclosing relay protection.
Paso Robles 70 kV Substation	Upgrade the new Estrella-Paso Robles 70 kV power line to meet line ampacity demands of 975A emergency. Upgrade terminal equipment such as insulators, jumpers, and any rigid bus at the breaker to meet 975A ampacity ratings. Remove existing Schweitzer Engineering Laboratories (SEL) 321 and SEL 267 relays at CB 72 breaker relay panel, along with associated auxiliary switch devices. Install two line protection relays in CB 72 relay panel to match new Estrella Substation terminal for step-distance protection. Provide breaker failure relay and reclosing relay protection. Connect new fiber optic line and common neutral into existing substation, including minor trenching outside the fence line. Connection of the fiber optic line requires a shallow trench, measuring 10 to 15 feet in length and a minimum of 24 inches of cover, to be excavated so the fiber optic line can be connected from the last reconductoring pole to inside of the substation.

Notes: CB = circuit breaker; kV = kilovolt; POTT = permissive overreaching transfer tip; RCO = regenerative catalytic oxidizer; SEL = Schweitzer Engineering Laboratories

2.4 Easement Requirements

The parcel of land where Estrella Substation would be constructed is under private ownership. An affiliate of HWT has an option agreement to purchase the approximately ~~15~~20-acre portion of this parcel. Prior to construction, HWT would purchase and hold fee title of this approximately ~~15~~20-acre area. The 15-acre substation footprint would be located entirely within the 20-acre parcel, and~~This area~~ is adequate to accommodate the entire substation facility including all considerations for site grading, equipment laydown and storage, fencing, access and internal circulation, spill and stormwater management, and other operational considerations. Once all of the environmental permits from the applicable siting and regulatory agencies have been obtained, and grading and drainage has been constructed for the entire substation site, HWT would sell the land and/or grant easements to PG&E ~~the land~~ necessary for construction of the 70 kV substation and 230 kV interconnection.

The relocated 230 kV tower and three LSTs associated with the 230 kV interconnection would be installed within the existing transmission line easement. Two additional LSTs or TSPs would be used to complete the interconnection and would be installed on the parcel that would be acquired for the development of Estrella Substation.

New easements would be acquired for the majority of the new approximately 7-mile-long 70 kV power line segment. The easements would be up to 115 feet wide with the width to vary based on the location of the new power line. When on private property, the easement would typically be 70 feet wide, and the poles would be located in the center of the easement (35 feet on each side). In locations where the poles would be adjacent to a county or city road franchise, new poles may be located on private property ranging from 2 to 7 feet outside of the road franchise, so the easement would be 2 to 7 feet on one side and 35 feet on the other. There may be some locations where the pole line may be located within the road franchise. A list of properties likely to require new easements and/or acquisition is provided in the PEA (see Appendix H to the PEA).

The approximately 3-mile-long reconductoring segment would be mostly located within an existing 30- to 40-foot-wide PG&E easement. Easement documents may be updated in some locations to account for slight variations in the new alignment and pole placement, or to clarify or update existing rights. If PG&E discovers an encroachment in the existing 70 kV power line easement, it would determine whether it is a conflict with the operation of the 70 kV power line, and/or what action to take, if any, after further investigation. Such action might include working with the property owner(s) to remove the conflict or minor relocation of the alignment and potential modification of the structure type.

A new 30-foot-wide easement, approximately 0.6 mile in length, would need to be obtained on private property to the north of the 70 kV substation to connect the reasonably foreseeable new distribution facilities to existing distribution feeders on Mill Road. The reasonably foreseeable new 1.1-mile-long segment of distribution line is planned to be installed within the existing road right-of-way.

2.5 Proposed Project Construction

The construction process, methods, equipment and personnel needs, access, temporary work areas, and schedule for the Proposed Project components are described in the following subsections.

2.5.1 Construction Process and Methods

Substation Construction

Grading and Site Preparation

Construction of the Estrella Substation would follow a typical sequence beginning with survey marking of staging areas and work areas, establishment of the private access road, vegetation clearance, fencing installation, grading, installation of culverts and swales, excavation of foundations, installation of facilities, and cleanup and post-construction restoration. Vegetation removal would be limited to areas within survey-marked boundaries, and would be completed

utilizing mechanized equipment. To the extent practical, removed vegetation may be disposed of at a landfill. Site construction fencing would be installed during the site preparation stage, and would require digging to a depth of ~~4~~5 feet to install fence~~ing anchor~~ footings.

Based on preliminary grading design, earthwork activities for the substation are anticipated to result in approximately ~~50,000~~68,000 cubic yards of cut and fill, balanced on site to the maximum extent possible. The cut and fill figure does not include approximately 16,500 cubic yards of topsoil which would be stripped and stockpiled during construction. Of the 16,500 cubic yards of topsoil, approximately 4,000 cubic yards would be used on site, and the balance (12,500 cubic yards) would be removed. Generally, grading and excavation would be accomplished in a phased approach. Earthwork activities (e.g., grading, excavation) would be completed to meet project design specifications and match proposed grades, considering the geotechnical conditions at the site. Maximum excavation depths would occur on the transmission portion of the site and at the steel dead-end structures in the 230 kV substation.

Geotechnical borings were performed in the vicinity of the substation site. The borings showed predominately gravel, clay sand and decomposed granite, which can be excavated. It is anticipated that these materials can be excavated using conventional earth-moving equipment. While not expected due to the clay soil, in the event there are areas where bulldozers and backhoes are not able to remove the material, scraping, ripping, drilling, hammering, and cutting may be used to break up the material into manageable pieces. Blasting is not anticipated.

During earthwork, soils and other surficial deposits that do not possess sufficient strength and stability and/or resistance to erosion of support structures, would be removed from the work area. No contaminated soils are expected on this site due to the long-term vineyard use of the site. All clean spoils excavated for the project would be used on site to balance cut and fill calculations, as feasible. All spoils that are not useable and/or reveal contamination, as determined through testing and/or based on visual appearance, would be sent to a properly licensed landfill facility. All recyclables would be taken to a licensed recycle facility, and all refuse would be taken to the Paso Robles Landfill or other suitable landfill facility. Topsoil reuse is not feasible within the fenced substation area; however, topsoil would be conserved at exterior temporary work areas where applicable.

Material that requires processing for construction of Estrella Substation would be mechanically processed on site to achieve a maximum particle size and distribution suitable for conventional placement in engineered fills. In addition to general earth-moving quantities, approximately 4-6 inches of surface gravel would be required to be imported and installed within the substation footprint and along the access road. Additionally, gravel would be placed in the substation staging areas.

Below-Ground Construction

Following site preparation, construction of the substation equipment foundations (consisting of drilled pier, mat, and pad type foundations), underground ducts, and the grounding grid would commence. Foundation construction excavation would be accomplished primarily by backhoes and drill rigs. Forms, reinforcing steel, and concrete would then be installed, as appropriate, to build the foundations for substation equipment and the control enclosures. Structure and equipment foundations would be excavated to an approximate depth of between 10 and

25 feet. Actual depths would depend on the equipment to be installed. Concrete pouring would be required to construct the foundations. Underground bundled polyvinyl chloride (PVC) conduit ducts and below-grade cable trench would be constructed within the substation pad for the power and control circuits.

Above-Ground Construction

Power lines and distribution circuits would be connected inside the substation after substation structures and equipment are installed. Control and protection wiring would be completed during above-ground structure installation. All equipment would be tested after installation and all wiring is landed, and before placing the substation in service. Equipment would be placed in service once individual power lines and circuits are ready to be energized and have been tested.

It is anticipated that all major electrical and substation equipment would be delivered to each substation site and placed directly on foundations and footings once all concrete footings have cured. All new components would be delivered to the site using a flatbed truck and positioned using a small crane or forklift. All equipment including breakers, bus supports, insulators, bus and switches would be installed or anchored into final position, grounded, and if required wired back to the control house. The control house will be delivered and installed on a concrete ~~piers~~slab. The control house building will then be ready for the installation of protective relay panels, batteries, alternating current~~AC~~ and direct current~~DC~~ load centers, SCADA and telecommunication hardware and air conditioning systems. Final equipment testing and commissioning would then be performed in the substation and then in conjunction with PG&E's new and existing facilities.

Access Driveway and Interior Road Construction

Access road construction would begin by excavating to a ~~maximal~~ depth of approximately 2~~7~~ feet at the intersection with Union Road, increasing~~tapering off~~ to 17~~2~~ feet deep for the remainder of the road. Next, the road would be graded and compacted in accordance with engineering standards and geotechnical requirements. Following initial compaction, road base would be imported, distributed on site, and final compacted. Finally, conventional paving equipment would be used to distribute the asphalt road material along the main access route and driveway aprons. Paving of the access road would occur after major construction at the substation site is completed and all heavy equipment is removed from the site.

230 kV Transmission Interconnection Construction

Installation of the 230 kV transmission interconnection to Estrella Substation would require a number of activities including setting the new tower foundations, tower assembly, and partial erection for the new towers. Construction activities would include the following:

- Adjacent to the new 230 kV substation, a temporary connection (commonly referred to as a "shoo-fly") would be installed to ensure that the existing 230 kV transmission line remains in service. Near the existing tap structures at each location, one to three (depending on the orientation of the conductor wires) wood poles would be placed in the ground without foundation and guy-wired for stability. The temporary structures would connect the conductors as necessary for the existing 230 kV transmission line to remain in service.

- The first circuit on the existing double-circuit 230 kV transmission line would be cleared, and the phase conductors would be moved off the two existing LSTs onto the temporary poles. The first circuit would then be re-energized.

- The second circuit on the existing double-circuit 230 kV transmission line would be cleared, and the erection and interset of two new LSTs would be completed. The phase conductors for the circuit would be dead-ended and temporary jumpers would be installed.

- The OPGW at each new tower would be secured.

- The relocated 230 kV tower and three LSTs associated with the 230 kV interconnection would be installed within the existing transmission line easement. ~~, an existing LST would be removed, and~~

- ~~t~~Two additional LSTs or TSPs would be used to complete the interconnection and would be installed on the parcel that would be acquired for the development of the Estrella Substation ~~would be installed for the Estrella Substation interconnection~~.

- The second circuit on the existing 230 kV transmission line would be re-energized and the first circuit cleared. The existing phase conductors would be transferred from the temporary poles to the new towers. The phase conductors on the new towers would be dead-ended and permanent jumpers installed; the phase conductors would be re-attached, and the first circuit would be re-energized.

- The temporary poles and anchors used for the shoo-fly would be removed.

The 230 kV interconnection LSTs would be installed on concrete pier foundations. Large augers and drill rigs would complete the required excavations and, if necessary, a reinforcing steel rebar cage would then be lowered into the excavation. An approximately 2-foot-tall form would be constructed. Concrete would then be poured to fill the excavation. Each completed foundation would be left to cure for 7 to 14 days. Typical foundation dimensions for the 230 kV interconnection are included in Table 2-7.

Table 2-7. 230 Kilovolt Interconnection Structure Foundation Summary

Foundation Type	Quantity	Approximate Diameter (feet)	Approximate Depth (feet)	Approximate Excavation Volume per LST (cy)	Approximate Concrete Volume per LST (cy)
230 kV Lattice Steel Tower	6	3–4	13–16	2.6–6.1	3.4–7.4

Notes: cy = cubic yards; LST = lattice steel tower

Each LST is comprised of multiple steel members that are connected together with hardware to form the tower. Installation of the tower would begin with the assembly of the tower in one or more sections. This assembly process may occur at one of the staging areas or within the work area at the individual tower's location. Once the first section of the tower is complete, it would

be placed onto the cured concrete foundation using cranes and secured using the appropriate hardware. This process would be repeated for any additional sections of the tower until it is complete. Insulators and additional hardware would be added to the tower using a bucket truck and cranes. In areas of difficult terrain, a helicopter may be used to assist with the tower installation process. If applicable, the existing conductor would then be attached to the new tower hardware.

As part of the 230 kV interconnection work, an existing LST would be removed and then replaced by a new LST in a slightly different location. The LST would be removed by disassembling the tower into three sections and lowering each section using a crane, or taking it down in one lift using a crane. Helicopters may be used to assist in the tower removal process. Following disassembly of the tower, its segments would be transported for reuse, recycling, or disposal at an approved facility. Once the LST has been removed, the associated concrete pier foundations would be jackhammered to approximately 3 feet below grade. The remaining void would then be backfilled with native soil saved from other excavations in the surrounding area and returned to its original contours, to the extent feasible, or in accordance with prearranged landowner agreements.

Telecommunications and Power Line Interconnection Construction

For the 230 kV substation, the back-up electric power source and telecommunication lines would be brought to the site either on overhead distribution poles or in underground conduits. If overhead, up to six wood poles (distribution poles, approximately 30 feet tall) may be constructed within the substation permanent disturbance area. The poles would be direct-embedded up to approximately 6 feet. If undergrounded, the back-up power and communications could be brought into the 230 kV substation in up to three underground conduits. Open trenching and/or horizontal directional drilling (HDD) may be used to install the conduits for power and communications cables. Any directional drilling pits would occur within the permanent or temporary disturbance areas. Depending on the voltage level and distance from the PG&E distribution line, either a pole-mounted transformer (on a PG&E pole), located along the existing distribution line that intersects the utility corridor, or a pad-mounted transformer, located adjacent to the control enclosure, would be installed.

For the 70 kV substation, the OPGW cable would be cut at the existing LST that is to be removed. The OPGW cable would then be rolled back to the first LST located both northeast and southwest from where the cable is to be cut. The cable would then extend down a tower leg at each of the towers and enter into a pull box. The pull boxes located near the bases of the existing towers and pull boxes installed near the fence line of the substation would be connected by underground conduit. The OPGW cable would transition on the tower legs to an underground fiber optic duct cable and then travel through 4-inch PVC conduit until terminating inside the 70 kV substation control house. Approximately 3,000 feet of new 4-inch conduit would be installed to complete the telecommunications system extension.

The conduit would be installed using open trenching methods of construction, HDD techniques, or a combination of the two. The actual method of installation would be determined during final design.

Open Trench Method

Excavators and other earth-moving equipment would be used to establish trenches for telecommunication lines, which typically range between 36 and 60 inches in depth, and 24 and 36 inches wide. Depths may vary depending on soil stability, the presence of existing substructures, and discussions with adjacent property owners/farmers.

Once a trench is excavated, large-diameter gravel would be applied to the bottom of the trench to create a level bed for the conduit and act as a French drain. PVC conduit would then be placed in the trench and a granular substrate (typically sand) level would then be layered around the conduits for additional protection and stability. The excavated material would be used to backfill the remainder of the trench. During backfill operations, "warning tape" would be placed at least 12 inches above the conduit. Once the trench is backfilled, the area would be compacted using portable compaction devices.

Horizontal Directional Drilling Method

HDD is a highly specialized boring technique that may be used to install conduits beneath the existing vineyards in the vicinity of the telecommunications system extension. The HDD technology uses a hydraulically powered horizontal drilling rig supported by a drilling mud tank and a power unit for the hydraulic pumps and mud pumps. A variable-angle drilling unit would initially be adjusted to the proper design angle for the particular drill.

The first step would be to drill a fluid-filled pilot bore. The first and smallest of the cutting heads would begin the pilot hole at the surveyed entry point in the entry pit. The first section of the drill stem has an articulating joint near the drill-cutting head that the HDD operator can control. Successive drill stem sections would be added as the drill head bores along the specified route. The drill head would then be articulated slightly by the operator to follow a designed path under the crossing and climb upward toward the exit point. Once the pilot hole is completed, a succession of larger cutting heads and reamers would be pushed and pulled through the borehole until it is the appropriate size for the 4-inch conduit. Using this method, the conduit would be installed up to 10 feet under the existing grade.

An entry pit and an exit pit are required for each HDD to contain the drilling mud. In general, the work area required on both the entry and exit sites would be approximately 50 by 50 feet. A non-toxic, water-based lubricant containing water and bentonite clay, referred to as drilling mud, would be used to aid the drilling, coat the walls of the borehole, and maintain the opening. During the bore, drilling mud would be pumped under high pressure through the drill stem to rotate the cutting head and return the soil cuttings to a pit at the surface entry point. No additives considered hazardous according to federal and state laws would be used during the HDD process. The drilling mud would be received in an approximately 6-foot by 6-foot pit.

The drilling mud returned back through the bore-drilled hole would be pumped from the entry and exit pits to a processing/shaker unit where the soil cuttings are removed, allowing the drilling mud to be reused. It is anticipated that the majority of the drilling

mud would be recycled by the drilling contractors and used on subsequent projects. Any excess clean drilling mud would be disposed of at an appropriate waste facility.

Once the borehole reaches the correct diameter, the conduit would be pulled through the borehole until it surfaces on the other side. The installed conduit would then be connected to adjacent splice boxes and/or other sections of conduit, and the entry and exit pits would be backfilled.

In order to facilitate the pulling and splicing of the cables, an underground pull/splice box would be installed at the base of an existing or newly installed structure. All pull/splice boxes used for the project would be pre-cast polymer concrete and traffic-rated boxes, measuring approximately 3 by 5 feet, as shown in Figure 2-19. These splice boxes would provide access during operations to the underground cables for maintenance, inspection, and repair.

An excavator or backhoe would be used to excavate a 5-foot-deep cavity near the base of the pull/splice box, measuring approximately 4 by 6 feet. The pull/splice box would be delivered to the project site on a flatbed truck and lowered into place using a small truck-mounted crane. The pull/splice box would then be connected to the underground conduits before being covered with at least 2.5 feet of compacted fill. The area around the pull/splice box would be restored with native soil saved from the initial excavation.

After installation of the conduit, the project proponents would install the communication cable in the conduits. Each cable segment would be pulled into the conduit, spliced at each splice box, and terminated at the transition where the lines convert to overhead. To pull the cable through the conduit, a cable reel would be placed at one end of the section and a pulling rig would be placed at the other end. A large rope would then be pulled into the conduit using a fish line, and attached to the cable-pulling eyes. The cable-pulling eyes would then be attached to the cable and the cable is then pulled through the conduit. A lubricant would be applied to the cable as it enters the conduit to decrease friction during pulling.

70 kV Power Line Construction

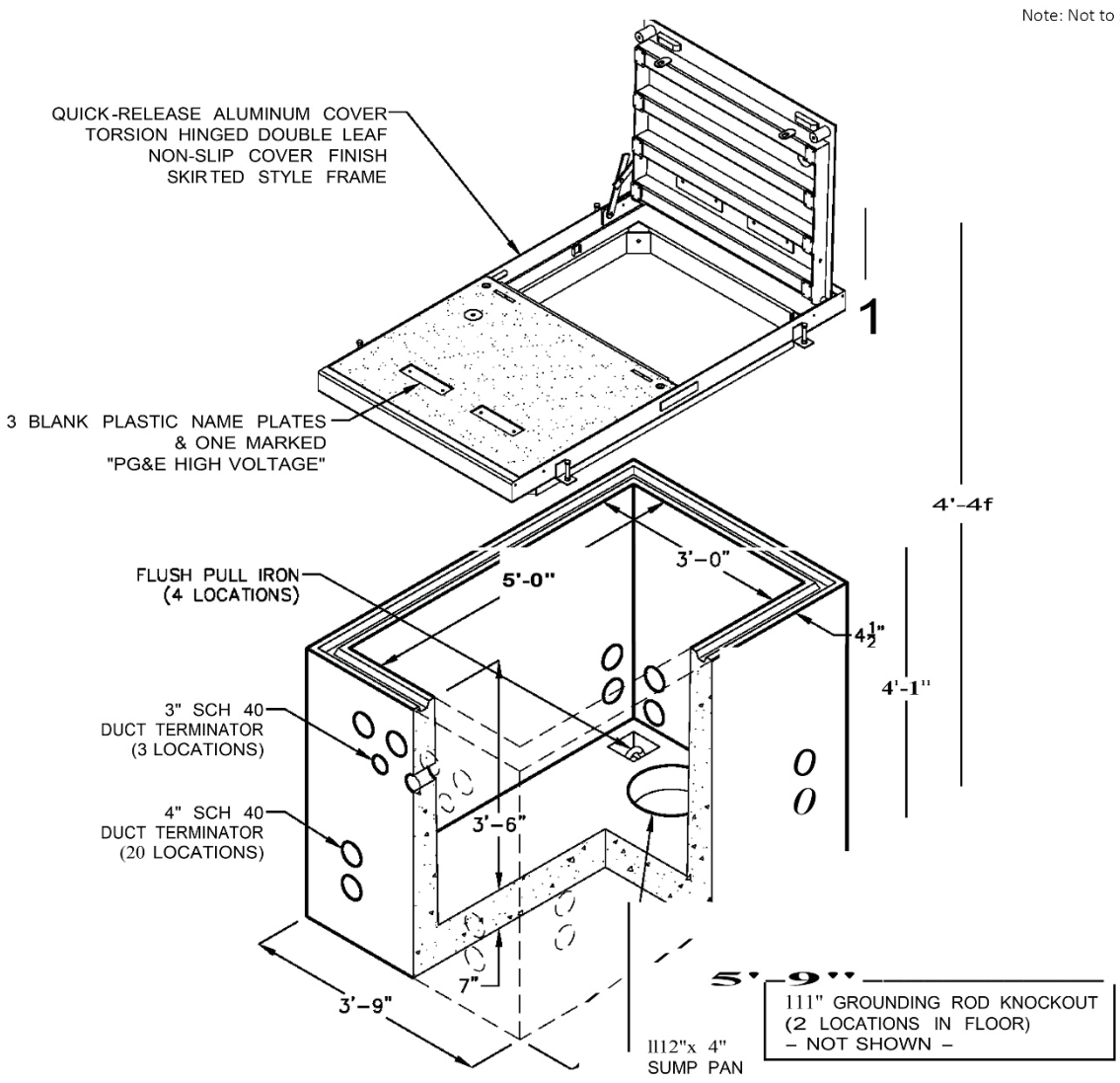
Site Preparation and Grading

Power line installation would begin with the clearing of the work areas at the location of each structure using a mower and/or backhoe. If necessary, minor grading may be conducted to develop a flat, safe area.

Crossing Structure Installation

Crossing structures would be installed to protect existing roadways and other facilities from sagging conductors during construction. PG&E would auger an approximately 2-foot-diameter, 8-foot-deep hole within each crossing structure work area to facilitate the crossing structure installation. The temporary wood poles would then be placed in the excavations by using a small crane, line truck, or loader, and secured by backfilling and compacting the excavated material into the remaining void. In areas where crossing protection may be short in duration or of low risk, equipment (e.g., line trucks or cranes) may be used in place of crossing structures to shield the crossing from potentially sagging conductors. Crossing structures may also be mounted on line trucks rather than in the ground.

Netting may be used if required for crossing over major roads. A crossing structure would be installed on both sides of the road and netting would be strung between the structures. When crossing SR-46, an additional structure may be needed in the median to help support the netting over the highway. The crossing structure would be installed according to encroachment permit requirements.



Source: NEET West and PG&E 2017

Figure 2-19.
Typical Pull/Splice Box

Estrella Substation and Paso Robles Area
Reinforcement Project

Power Line Structure Installation

The 70 kV TSPs would be installed on concrete pier foundations. Large augers and drill rigs would complete the required excavations and, if necessary, a reinforcing steel rebar cage would then be lowered into the excavation. An approximately 2-foot-tall form would be constructed, and concrete would then be poured to fill the excavation. Each completed foundation would be left to cure for 7 to 14 days. LDSPs would be direct-embedded and would not require a foundation. Table 2-8 shows a summary of the typical power line structure foundation dimensions.

Table 2-8. Power Line Route Structure Foundation Summary

Foundation Type	Quantity	Approximate Diameter (feet)	Approximate Depth (feet)	Approximate Excavation Volume (cy)	Approximate Concrete Volume (cy)
70 kilovolt (kV) Light Duty Steel Pole	110	3.0	12.0–20.0	3.1–5.2	0
70 kV Tubular Steel Pole	47	4.5–5.0	16.5–18.0	7.9–10.9	9.7–13.1

Notes: cy = cubic yards; kV = kilovolt

Source: NEET West and PG&E 2017

Typical equipment used for power pole installation includes truck-mounted augers and drills to excavate the holes. When foundations are needed, concrete trucks supply and pour concrete into installed holes. Cranes are used to lift and place new poles/towers into the newly installed holes or foundations. Cranes and/or bucket trucks lift workers into elevated positions to work on newly installed poles or towers. Crew cab and pickup trucks are used to transport workers and tools to each installation site. Water trucks and portable water tanks are used to minimize fugitive dust during excavation and restoration activities.

New TSPs, along with crossarms, insulators, and hardware, would be delivered to structure sites in two or more sections using a flatbed truck and assembled on site. The crossarms would be attached, the pole would be placed onto the cured concrete and anchor bolt foundation using cranes, and the pole would be secured using the appropriate hardware. If the pole is delivered in multiple segments due to access restrictions or other engineering considerations, the segments would be placed in order and secured using hardware. In areas of difficult terrain, poles may be delivered and assembled on their foundations using a helicopter. Once the pole is installed, additional hardware would be added to the crossarms using a bucket truck. If applicable, the existing conductor would then be attached to the new TSP hardware. Excess soils would be removed to the staging area and then covered, tested, and disposed of, as required.

Similar to TSPs, LDSPs, as well as crossarms, insulators, hardware, and any wood poles, would be delivered to structure sites in flatbed trucks. As noted above, the LDSPs would be embedded directly into the ground and would not require a separate concrete foundation. Installation includes excavation of an up to 3-foot-diameter, 12- to 20-foot-deep hole. Following the excavation process, the poles, insulators, and hardware would be assembled. The poles would

then be placed into the excavated hole using line trucks or cranes, the remaining void would be backfilled, and the backfill area would be compacted using portable compacting machinery. Once the pole is embedded and the backfill area is compacted, additional hardware may be added to the pole using a bucket truck. If applicable, the existing distribution conductor would then be attached to the new LDSP hardware.

Existing Structure Removal

Following the transfer of the existing distribution and 70 kV conductors to the new poles along the reconductoring segment or transfer of the existing distribution line to the new 70 kV power line segment poles, crews would remove existing distribution and power line poles and hardware using cranes, aerial man lifts, and/or helicopters. In the new 70 kV power line segment, approximately 40 existing distribution poles would be removed. In the reconductoring segment, approximately 50 power line poles would be replaced and about 12 existing distribution poles would be removed or replaced. Old wood poles would simply be lifted out of the ground using mechanical equipment. Removal of steel poles would occur by excavating an area around the pole to a depth of approximately 2 to 4 feet, or deeper if requested by private property owners. The pole would then be cut off and the remaining base would be buried in place.

All removed poles would be transported off site to the staging area or to the PG&E Service Center for reuse evaluation. ~~Bases of the poles would then be removed by excavating the area around the base.~~ The remaining void would then be backfilled with native soil saved from other excavations in the surrounding area. The site would be returned, as near as practicable, to its original contours (or in accordance with prearranged landowners agreements, where applicable).

Electric Distribution Line Outages

During construction, sections of distribution lines that would cross the project or would be collocated on the new 70 kV power line segment may be temporarily taken out of service. As part of its normal operating procedures, PG&E's Distribution System Operations group would coordinate taking the distribution lines out of service (i.e., taking a clearance). The Distribution System Operations group would assess how to accomplish the clearances, identify where and when clearances may occur, notify customers being served by the distribution line that power outages could occur, manage the clearances, and retain balance in the system by routing power to minimize customer outages.

To accomplish the clearances and maintain balance in the system, the Distribution System Operations group must operate switches at locations along the distribution lines being taken out of service, or along other distribution lines that may be affected by taking a line out of service. Sometimes ~~the switches are thrown at a~~circuit breakers are opened at a central location, such as a substation~~,~~; and sometimes switches are operated remotely by System Operations. Other times, the System Operations team must physically drive to a field location and operate the switch manually. Because switches are often located above ground level on distribution poles, bucket trucks are used to enable a worker to reach the switches. Operating a switch takes a matter of minutes and the worker would return to other work once the switching is completed. These distribution-switching activities take place throughout PG&E's service territory and are an integral part of PG&E's ongoing operational activities.

Conductor Installation

The new pole line conductor installation process would begin by temporarily attaching sheaves and rollers to the lower end of the insulators to allow the conductor to be pulled along the line. A rope would then be pulled through the rollers from structure to structure. In instances where terrain is difficult, or the use of a bucket truck or aerial man lift is not feasible, this may be accomplished using a helicopter. Once the rope is in place, it would be attached to a steel cable and pulled back through the sheaves. The conductor would then be attached to the steel cable and also pulled back through the sheaves and into place. Pulling would be completed using conventional tractor-trailer pulling equipment located within one of the substations or within designated pull sites located along the alignments. The pulling through each structure would be done under a controlled tension to keep the conductor elevated and away from obstacles.

The reconductoring installation process would be completed in a similar manner to the new pole line conductor; beginning by temporarily attaching sheaves and rollers to the lower end of the insulators, and putting the old conductor into the roller. The new conductor would then be attached to the old conductor and pulled through the sheaves and into place using similar conventional tractor-trailer pulling equipment and methods, as described above.

After the new conductor has been pulled into place, the sag between the structures would be adjusted to a pre-calculated tension. The conductor would then be attached to the end of each insulator, the sheaves would be removed, and vibration dampers and other hardware accessories would be installed. The existing 12 kV distribution line would be transferred from the existing poles to new poles, where applicable. Old line would be removed from the sites on a line truck with trailer.

Reasonably Foreseeable Distribution Components

Construction of the reasonably foreseeable new distribution line segments would follow a similar process to the 70 kV power line construction, but on a smaller scale. No site preparation or grading would be required for the distribution line construction and reconductoring. Distribution poles would be direct-embedded and, once installed, conductors would be strung using reel trailers pulled behind trucks that park in flat areas. No outages would be required for construction of the new distribution line segments except to tie into the existing circuits. During reconductoring, any outages of the existing distribution lines should be minimal and limited to the close proximity to where the work is being done.

The work within the 70 kV substation to establish the reasonably foreseeable distribution feeders would follow a similar process to that described above for the Proposed Project (see “Below-Ground Construction” and “Above-Ground Construction”). This work would require some ground disturbance associated with construction of equipment foundations, but this would take place within the fence line of the already-constructed Estrella Substation. Equipment foundations would likely include drilled pier and pad type foundations. Trenching would likely be done to install additional conduits to route 21 kV cables and control cables between equipment and the existing control building. Once the 70/21 kV transformer is in place, a concrete curb would likely be poured to create a containment basin, then mineral oil would be delivered to complete the final assembly of the unit. The 70/21 kV transformer would be constructed with secondary containment design for oil containment in the event of a spill.

All equipment would be tested after installation and wiring, and before placing in service. Equipment would be placed in service once individual circuits are ready to be energized and have been tested outside the substation.

Ultimate Substation Buildout

Ultimate buildout of the Estrella Substation would follow a similar process to that described for the Proposed Project. Specifically, new equipment (e.g., transformer, breakers, switches, etc.) within the 230 and 70 kV substations would be installed, tested, and commissioned in a similar manner to that described under "Below-Ground Construction" and "Above-Ground Construction" for the Proposed Project. Some ground disturbance would be required for constructing the equipment foundations and substation wiring, but this would occur within the fence line of the already-constructed Estrella Substation. Construction of the additional 230 kV interconnection is assumed to follow a similar process to that described above for the Proposed Project, under the heading "230 kV Transmission Interconnection Construction".

2.5.2 Construction Temporary Work Areas and Access

Construction of the Proposed Project would require establishment of temporary work areas, such as staging areas, structure work areas, conductor pull and tension sites, and helicopter landing areas. Construction of temporary access roads also would be required. While locations for temporary work areas and access roads may need to be adjusted as part of final engineering and at the time of construction due to land use changes, avoidance of unanticipated environmental impacts, and other factors, approximate locations of temporary works areas are shown in Figure 2-6 and Figure 2-7. Table 2-9 provides a summary of the approximated temporary work area/disturbance area requirements for construction of the Proposed Project.

Table 2-9. Proposed Project Temporary Disturbance Areas

Temporary Work Area	Anticipated Site Preparation	Total Approximate Area (Acres)[1]
Estrella Substation		
Substation Work and Staging Areas	Vegetation removal and grading, including grape vines (and roots) and grasses.	~~6.2~~0.2
70 kV Power Line Alignment		
Staging Areas[2]	Vegetation removal may be required, temporary fencing and gates would be installed, gravel would be installed, and temporary power would be supplied by a distribution tap or generator.	35.3
Pole Work Areas[3]	Vegetation removal and minor grading may be required.	44.4
Crossing Structure Work Areas	Vegetation removal may be required.	1.1
Pull and Tension Sites	Vegetation removal may be required.	10.9

Temporary Work Area	Anticipated Site Preparation	Total Approximate Area (Acres)[1]
Landing Zones	Sites would be leveled free of obstacles and debris.	1.4
Access Roads	Existing unpaved roads may be improved within the existing road. Improvements include minor grading/blading and the placement of dirt and/or gravel. Overland access may require vegetation removal.	20.1
Reasonably Foreseeable Distribution Components[4, 5]		
Distribution Pole Work Areas	Vegetation removal may be required.	1.8
21/12 kV Pad-Mounted Transformer Work Areas	Vegetation removal and minor grading may be required.	1.5

Notes: kV = kilovolt; LDSP = light-duty steel pole; LST = lattice steel tower; TSP = tubular steel pole

1. Acreage totals do not account for overlapping work areas.
2. The Golden Hill Industrial Park Staging Area may be replaced with an approximately 10-acre staging area located on Paso Robles Municipal Airport property.
3. Includes work areas for new and replacement LSTs, TSPs, LDSPs, work areas required for removal of existing poles, and existing and new distribution poles.
4. If construction of the reasonably foreseeable distribution components occurs at the same time as the substation and 70 kV project components (not currently predicted), the staging area in the Golden Hill Industrial Park may be used. Otherwise, staging for construction of the distribution components may occur at the PG&E yard at Templeton Service Center.
5. Work within the Estrella Substation (installation of 70/21 kV transformer and associated equipment) for the reasonably foreseeable distribution components would not result in any new temporary disturbance outside of the substation fence line.
6. Specific temporary impact acreages associated with the additional 230 kV interconnection that could be installed as part of ultimate substation buildout are currently unknown. However, it is assumed that the additional 230 kV interconnection would be composed of LSTs, similar to the Proposed Project, which require a work area of 200 by 200 feet for each LST.

Source: NEET West and PG&E 2017

Staging Areas

Proposed Project construction would require four main staging areas: two staging areas supporting construction of the 70 kV power line alignment (one of which may also support construction of the distribution components), and two staging areas supporting construction of Estrella Substation. Depending on the timing of construction of the distribution components of the Proposed Project, an existing PG&E yard at Templeton Service Center may also be used. The largest staging area would be the Golden Hill Road Staging Area, which would be approximately 34.8 acres. The other staging area supporting the 70 kV power line construction would be located at Navajo Avenue, and would be approximately 0.5 acre. The two staging areas

supporting construction of the Estrella ~~s~~Substation, totaling approximately 1.9 acres, would be located entirely within the 15-acre permanent disturbance area.

Staging areas would be used for receiving and staging of materials and equipment, laydown areas, and employee parking. Staging areas would also serve as the assembly point for project personnel, as well as in some cases, the location for temporary, portable bathroom facilities; equipment storage during off-work hours and weekends; materials storage; office trailer staging; and a meeting area, as needed, for project management. For work activities at the substation site and the main staging sites, a temporary overhead service drop (tap) or an underground service (run) would be extended to the sites to provide power if existing distribution facilities are present. If a distribution service from nearby distribution lines is not feasible for the staging area sites, these areas could receive power from temporary, portable generators.

Preparation of the two main staging areas supporting the 70 kV power line alignment would take approximately 4 weeks to complete and would include the following actions and improvements:

- Site leveling and grading;
- Installation of temporary in-ground fencing (if not already present), including 6- to 8-foot-tall chain-link fence, with up to 2 feet of barbed wire around the perimeter of each staging area with locking gates to control access;
- Placement of gravel or equivalent material within staging area to control dust, sedimentation, equipment track-out, and prevention of stormwater runoff leaving the site during rain events;
- Installation of temporary power from portable generators and/or taps to existing distribution lines in the area; and~~,~~
- Installation of necessary construction office trailers, sanitary facilities, and storage buildings.

Structure Work Areas

Structure work areas would be established at each new or replacement tower or pole that would be installed as part of the Proposed Project. These work areas would be used to facilitate the tower/pole assembly, erection, and hardware assembly processes. They would also be used to support the conductor installation and/or removal processes. The final tower/pole locations would be determined when engineering is complete and, where feasible, would be adjusted to account for property owner preferences. Structure work areas may also be adjusted to accommodate the final tower/pole locations.

These work areas would typically be centered on the tower/pole location and would vary in size depending on the type of tower/pole being installed. Typical work areas are about 100 feet by 100 feet for LDSPs, 150 by 150 feet for TSPs, and 200 by 200 feet for LSTs. These work areas may be cleared of vegetation and graded, if necessary, prior to their use. Some sites may also require

tree trimming, tree removal, and/or vine removal. Work areas for existing and new distribution poles would typically be about 50 by 50 feet.

Temporary work areas would similarly be required for installation of crossing structures. These work areas would typically measure approximately 40 by 40 feet. Preparation of the site would typically be limited to mowing vegetation, as needed, to minimize the risk of fire. Approximate crossing structure locations for the 70 kV power line are depicted on Figure 2-7.

Pull and Tension Sites

Pull and tension sites, also known as stringing sites, would be used to install conductor on support structures. Pull and tension sites would only be needed for the 70 kV power line (not the distribution line). Conductor installation activities at stringing sites would include pull and tension equipment staging, temporary pole anchor installation, and pulling and tensioning of the conductor. In addition, select pull sites may provide the necessary work area needed for telecom-related activities. Proposed pull site locations are depicted on Figure 2-7.

Pull sites would typically be located within the power line easement and can be spaced between 0.5 and 1 mile apart. In locations where pulling would be required through an angle, or at the start of a new direction of the alignment, the pull site may be located at an angle outside the easement or off the end of an easement corner. Pull sites would typically be 70 feet wide and would range between approximately 120 and 150 feet long. Each stringing site would require about 0.25 acre.

Typical equipment required for pull and tension sites includes pullers, tensioners, cranes, crawlers, water trucks, crew cab trucks, and pickup trucks. Construction crews would access pull and tension sites using rubber tire mounted trucks. Access may be required throughout the easement, away from structure work areas and pull sites, to support pull and tension activities.

All pull sites located outside of paved areas may require vegetation trimming/removal to minimize the risk of fire and, depending on the local terrain, some minor grading may be required to ensure a flat and safe work environment. Depending on the time of year and field conditions at the time of construction, gravel may be applied to help stabilize the ground for equipment use.

Helicopter Landing Zones

Helicopter landing zones may be used during construction for the staging, storage, refueling, and operation of helicopters during construction. While the number and exact locations of helicopter landing zones may change depending on site conditions at the time of construction, six sites have been identified for use during the Proposed Project:

- Landing Zone 1: Paso Robles Municipal Airport;
- Landing Zone 2: Estrella Substation site, south of existing temporary worker residence adjacent to Union Road;
- Landing Zone 3: new 70 kV power line segment site north of Golden Hill Road (may be collocated with a stringing site);

- Landing Zone 4: new 70 kV power line segment site south of Buena Vista Drive;
- Landing Zone 5: reconductoring segment site west of Palo Alto Court (may be used as a staging area instead and may be collocated with a stringing site); and
- Landing Zone 6: reconductoring segment site west of Navajo Avenue (may be collocated with a stringing site).

Approximate locations of these potential landing zones are depicted on Figure 2-7. The two non-airport landing zones would measure about 100 by 100 feet, with a 30- by 30-foot touchdown pad area. Because the identified landing zones are comprised of an airport and two disturbed areas within the Proposed Project area, these landing zones would not require extensive preparation.

Construction Access

Construction crews, materials, and equipment would primarily access the Proposed Project site by using U.S. Route 101 and SR-46, and by traveling along Union Road, Golden Hill Road, or North River Road. In addition to using a system of existing paved and unpaved roads, the Applicants may also grade or mow segments of new temporary unpaved roads, or travel overland to provide access to Estrella Substation and/or pole locations along the new 70 kV power line and reconductoring and pole replacement segments. The new and reconductored distribution line segments would be accessed via an existing dirt road north of the proposed substation site and along other existing paved and unpaved roads (no new access would be needed for construction of the distribution components).

Access to the work sites for workers and equipment would occur using rubber tire mounted vehicles. Some 70 kV poles may also be accessed on foot if sensitive resources preclude the use of heavy equipment. For roads that require improvements for access and equipment delivery, grading could be conducted, if necessary, followed by the addition of temporary rock bedding. Equipment required for this work may include a grader, dump truck for gravel delivery, and a loader or tractor to spread rock. Work along the new 70 kV power line segment would occur from the road shoulder, where feasible.

Permanent and construction access to the proposed substations would be immediately off Union Road on a new private access road. The main access road would be paved and measure about ~~1,100~~1,700 feet long and about 20 feet wide. Construction access for the proposed 230 kV interconnection would occur using the same access route being used for substation construction. It is anticipated that access from the substation to the existing 230 kV transmission line would occur using PG&E's existing utility easement, immediately adjacent to the Estrella Substation property boundary.

Helicopter Access and Use

Light-duty and medium-duty helicopters with a maximum payload capacity of approximately 4,000 and 10,000 pounds may be used to assist with the installation of new 70 kV poles and/or conductor installation and removal. Helicopters would primarily be used for such activities in areas along the power line alignment where limited access or local terrain conditions prohibit the work from being conducted by ground-based crews and equipment. Based on preliminary

assessment of the proposed alignment, and for quantitative discussion purposes in the EIR, it is projected that helicopter activities may occur approximately 132 days during the 18-month construction period for the substation and 70 kV power line. It is anticipated that only one helicopter would be used at any one time.

Typical helicopter payloads would include, but not be limited to, poles, sock lines, power line hardware, crewmembers, and equipment. Refueling activities would occur only at the Paso Robles Municipal Airport. Flight paths for helicopters would be from the Paso Robles Municipal Airport and would generally extend directly to and along the power line easement. Helicopter operation would be planned to avoid sensitive receptors. Hours of operations for helicopters would generally be the same as those for construction, 7:00 a.m. to 5:30 p.m., Monday through Friday, and would include Saturdays when needed. In some cases, residents may need to relocate from their home temporarily during helicopter activities; this is discussed further in Section 4.14, "Population and Housing."

2.5.3 Construction Workforce, Equipment, and Schedule

Different phases of the construction process would require varying numbers of construction personnel. On a typical workday, about 12 to 15 construction crewmembers would be working at Estrella Substation. Similarly, about 10 to 15 construction crewmembers would be working on the installation and/or removal of power line structures and on reconductoring activities. During pulling activities, a larger work team would be required to complete the various work stages. Typically, this activity would require about 30 workers, for short periods of time. During construction of the power line segment, up to four crews of approximately six workers each would be working at any one time. Project equipment, personnel requirements, and task duration by construction activity are presented in Table 2-10.

Construction would typically occur 6 days per week (Monday through Saturday) throughout the duration of construction, although water trucks may be operated on Sundays for fugitive dust control in compliance with the Construction Activity Management Plan. Daily work hours would generally be 10 hours per day with construction typically occurring between 7:00 a.m. and 5:30 p.m. Occasionally, work may occur during the evening hours for activities such as monitoring the substation foundation curing process, and testing and commissioning the new substation components. However, such activities would not normally generate loud nose. Nighttime work may also be required (e.g., when electrical clearances are available or for safe completion of a construction procedure).

2.5.4 Construction Power, Water Use, and Domestic Supply Services

Electric power required for construction of the Estrella Substation would be supplied by tapping into the existing power lines adjacent to the substation site. Small generators may also be used to supply temporary power during construction at the substation site.

The proposed substation site is not located within a water district or sewer service area. Water required for construction may come from several sources, including a private well located adjacent to the western edge of the substation site, a municipal water source, delivery by water trucks, or Lake Nacimiento, which is located northwest of Paso Robles. Another potential water

source for construction would be recycled water from the City's newly upgraded wastewater treatment plant.

Table 2-10. Preliminary Construction Workforce and Equipment Use, and Approximate Task Durations

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
Estrella Substation					
~~**230 kV**~~ **Entire 15-acre Substation Site**					
Access Roads	Workers	10	Skip Loader	2	Month ~~1~~4
	1-Ton Crew Cab Flat Bed, 4 x 4	1	Water Truck	1	
	Dump Truck	2	–	–	
Site Work Area Preparation Mobilization	Workers	10	Roller	2	Month 4-5~~1-2~~
	Bulldozer	1	Grader	1	
	Articulating Dump Truck	4	Tandem Axle Dump Truck	2	
	Scraper	1	Water Truck	2	
	Rubber Tire Loader	1	Pickup Truck	1	
Fence and Gate Installation	Workers	5	3-Ton Flat Bed Truck	1	Month 5~~2~~
	½-Ton Pickup Truck, 4 x 4	1	Bobcat	1	
	1-Ton Crew Cab Flatbed, 4 x 4	1	Water Truck	1	
230 kV Substation					
Foundation Construction	Workers	2–12	Water Truck	1	Month 5-6~~2-3~~
	Hole Digger	1	Pickup Truck	1	
	Backhoe/Dozer/Excavator	1	Crane or Boom Truck	1	
Ground Grid Conduit Installation	Workers	5	Water Truck	1	Month ~~3-4~~6-7
	Trencher	1	–	–	
Steel Bus Erection	Workers	5	Aerial Manlift	1	Month ~~4~~7-8
	Boom Truck	1	Water Truck	1	

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
Install Yard Rock	Workers	8	Dump Truck	1	Month ~~4-5~~7-8
	Bobcat	1	Water Truck	1	
Transformer and Equipment Delivery and Installation	Workers	5–8	Crane or Boom Truck	1	Month ~~4-5~~8-9
	2-Ton Truck	1	Tractor/Trailer	1	
	Pickup Truck	1	Portable Gas/Diesel Generator	1	
	Bucket Truck	2	–	–	
Control Enclosure Delivery and Install	Workers	6	Crane	1	Month ~~5~~8
Remaining Equipment Delivery and Install	Workers	2–5	Boom Truck	1	Month 8-9~~5-6~~
Cable Installation and Termination	Workers	5	Aerial Manlift	1	Month ~~5-6~~9
Testing and Commissioning	Workers	2–5	Pickup Truck with Trailer	2	Month 9-10~~6-7~~
Cleanup and Restoration	Workers	3	Front-End Loader	1	Month ~~7~~4-10
	Blader	1	Water Truck	1	
	Dump Truck	1	–	–	
70 kV Substation					
Site Work Area Preparation Mobilization	Workers	6	Grader	1	Month ~~1-2~~5
	Backhoe/Dozer/Excavator	1	1-Ton Pickup Truck, 4 x 4	2	
Foundation Construction	Workers	6	Trencher	1	Month ~~2-3~~6-7
	Hole Digger	1	1-Ton Pickup Truck, 4 x 4	1.75	
	Backhoe/Dozer/Excavator	1	–	–	

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
Ground Grid/Conduit Installation	Workers	4	1-Ton Pickup Truck, 4 x 4	1	Month 6-7~~2-3~~
	Backhoe/Dozer/Excavator	1	Trencher	1	
Steel Bus Erection	Workers	8	Aerial Manlift	2	Month 8~~3-4~~
	Boom Truck	2	1-Ton Pickup Truck, 4 x 4	2	
Equipment Delivery and Installation	Workers	6	Aerial Manlift	2	Month 9~~4~~
	Boom Truck	1	1-Ton Pickup Truck, 4 x 4	2	
Control Enclosure Delivery and Install	Workers	5	1-Ton Pickup Truck, 4 x 4	2	Month 9-10~~4~~
Cable Installation and Termination	Workers	5	1-Ton Pickup Truck, 4 x 4	2	Month 9-10~~4-5~~
Install Yard Rock	Workers	6	Dump Truck	1	Month ~~5~~10
	Bobcat	1	Backhoe/Dozer/Excavator	1	
Cleanup and Restoration	Workers	4	1-Ton Pickup Truck, 4 x 4	1	Month 10~~5~~
Testing and Commissioning	Workers	4	1-Ton Pickup Truck, 4 x 4	1	Month ~~6~~11-12
230 kV Transmission Interconnection					
Site Work Area Preparation Mobilization	Workers	8	Grader	1	Month 1~~-2~~
	½-Ton Pickup Truck, 4 x 4	1	1-Ton Crew Cab Flat Bed, 4 x 4	1	
	Backhoe/Dozer/Excavator	1	Water Truck	1	
Foundation Tower Installation/ Removal of One Tower	Workers	10	Pickup Truck	2	Month 1-7~~2-3~~
	Crane	3	Dump Truck	1	
	Bucket Truck	2	2-Ton Truck	2	

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
	Concrete Truck	2	Forklift	3	
	Drill	1	Line Truck	2	
	Backhoe	1	Water Truck	1	
Conductor	Workers	15	Line Truck	2	Month 8~~4~~
	Bucket Truck	2	Pickup Truck/Crew Truck	4	
	Crane	3	–	–	
Cleanup and Restoration	Workers	5	Pickup Truck	1	Month 9~~5~~
	Grader	1	Water Truck	1	
	Backhoe	1	–	–	
70 kV Power Line					
Reconductoring Segment					
Site Work Area Preparation Mobilization	Workers	6	Grader	1	Month ~~1~~3
	1-Ton Crew Cab Flat Bed, 4 x 4	1	Water Truck	1	
	Pickup Truck	1	Backhoe	1	
Pole Installation/Transfer/ Distribution/Removal	Workers	20	Water Truck	1	Month 3-9~~2 7~~
	Crane/Basket	3	Helicopter	1	
	Heavy Crane	1	Bucket Truck	2	
	Drill	1	Line Truck	2	
	1-Ton Crew Cab Flat Bed, 4 x 4	3	2-Ton Truck	3	
	Pickup Truck	3	–	–	

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
Conductor Installation	Workers	15	Wire Puller	1	Month 5-9~~3-7~~
	Line Truck	2	Tensioner	1	
	Pickup Truck	2	Wire Truck/Trailer	1	
	2-Ton Truck	2	Forklift	1	
	Crane/Basket	2	Medium Duty Helicopter	1	
	Bucket Truck	2	Water Truck	1	
Cleanup and Restoration	Workers	6	Backhoe	1	Month ~~8~~ 10
	Pickup Truck	1	Water Truck	1	
	Grader	1	–	–	
New 70 kV Power Line Segment					
Site Work Area Preparation Mobilization	Workers	6	Grader	2	Month ~~8~~10
	1-Ton Crew Cab Flat Bed, 4 x 4	1	Backhoe	1	
	Pickup Truck	1	Water Truck	2	
Pole Tower Installation	Workers	21	2-Ton Truck	3	Month ~~9-16~~10-18
	Concrete Truck	3	Line Truck	3	
	Backhoe	2	Utility Truck	1	
	Tractor Trailer	1	Water Truck	2	
	Pickup Truck	3	Crane	1	
	Bucket Truck	3	–	–	

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
Conductor Installation	Workers	18	Wire Truck/Trailer	1	Month 18-20~~17 18~~
	Line Truck	3	Crane with Basket	3	
	Pickup Truck	3	Bucket Truck	2	
	2-Ton Truck	3	Light Duty Helicopter	1	
	Wire Puller	1	Fork Lift	1	
	Tensioner	1	Water Truck	1	
Cleanup and Restoration	Workers	6	Backhoe	1	Month ~~18~~21
	Pickup Truck	1	Water Truck	1	
	Grader	1	–	–	
Reasonably Foreseeable Distribution Facilities[1, 2]					**Total of 19 Weeks**
Mobilization	Workers	6	2-Ton Truck	1	2 weeks
	1-Ton Crew Cab Flat Bed, 4 x 4	3	Backhoe	1	
	Water Truck	1	–	–	
Foundation Construction	Workers	2–12	2-Ton Truck	1–3	6 weeks
	1-Ton Crew Cab Flat Bed, 4 x 4	1–3	Backhoe	1	
Ground Grid/Conduit Installation	Workers	5–10	2-Ton Truck	1	4 weeks
	1-Ton Crew Cab Flat Bed, 4 x 4	1-2	Crane	1	
Steel/Bus Erection	Workers	5	Pickup Truck	1	4 weeks
	Concrete Truck	2	2-Ton Truck	1	
Distribution Bank and Breaker Installation	Workers	5	Semi-trailer Truck	1	3 weeks
	1-Ton Crew Cab Flat Bed, 4 x 4	2	Crane	1	

Proposed Project Task	Workers, Equipment	Quantity per Day	Equipment	Quantity per Day	Estimated Work Dates
Distribution Feeder, Conduit, Boxes, Underground Cable, Riser Poles, Line Work	Workers	8	Line Truck	2	6 weeks
	1-Ton Crew Cab Flat Bed, 4 x 4	1	Backhoe	1	
	2-Ton Truck	1	Crew Truck	2	
Cable Installation and Termination and Indoor Control Building Work	Workers	3–5	I-Ton Pickup Truck, 4 x 4	1	4 weeks
	1-Ton Crew Cab Flat Bed, 4 x 4	2	2-Ton Truck	1	
	Backhoe	1	–	–	
Testing	Workers	3	I-Ton Pickup Truck, 4 x 4	3–4	4 weeks
Cleanup and Restoration	Workers	3	1-Ton Crew Cab Flat Bed, 4 x 4	1	2 weeks
	1-Ton Pickup Truck, 4 x 4	3	Water Truck	1	
	Backhoe (or similar)	1	–	–	

Notes: kV = kilovolt

1. Assumes build-out of the reasonably foreseeable 70/21 kV facilities within the 70 kV substation and construction/reconductoring of the new Estrella distribution feeders.
2. Specific construction schedule information and personnel and equipment requirements associated with ultimate substation buildout are not known at this time. However, Table 2-10 provides a reasoned approximation of the required number of workers and equipment associated with construction of the Proposed Project, incorporating additional input and construction phasing refinements from HWT in comments on the DEIR and responses to Data Request No. 6.

Source: NEET West and PG&E 2017

Construction of the substation and power line would require approximately 10.3 million gallons of water total during the construction period (about 32 acre-feet), with 8.3 million gallons required for the substation and 2 million gallons required for the power line. About 25 percent of the total water used would be for construction activities (e.g., concrete mixing), with the remaining 75 percent used for dust control during the construction period. Daily water use during the construction period would vary based on the construction phase, but it is estimated that the average water use per day would be about 68,600 gallons. Portable restroom facilities would be provided at the site for worker use during the construction period.

2.5.5 Cleanup and Restoration

Surplus material, equipment, and construction debris would be removed at the completion of construction activities. All man-made construction debris would be removed and recycled or disposed of at permitted landfill sites. Cleared trees would be chipped and stored for later use during site restoration, left on the property owner's site, or disposed of off-site, depending on landowner and agency agreements.

All areas temporarily disturbed by the Project would be restored to the extent practicable, following construction. These disturbed areas include staging areas and access roads, work areas around each tower/pole, and the areas used for conductor stringing and staging. Post-construction restoration activities would include returning areas to their original contours and drainage patterns in accordance with stormwater pollution prevention plan best management practices and as prearranged through landowner agreements, where applicable.

All temporarily disturbed areas within and around Estrella Substation would be restored to the extent necessary for safe operation. All construction waste would be disposed of in accordance with applicable federal, state, and local laws regarding solid and hazardous waste disposal through transport to an authorized landfill.

2.6 Proposed Project Operations and Maintenance

The Applicants would operate all new and existing components of the Proposed Project according to their respective standard operating protocols and procedures. The Applicants anticipate using similar substation monitoring, control, and data acquisition architecture (e.g., SCADA) as used for their other power delivery assets, including the use of standard monitoring, control, protection equipment, circuit breakers, and other line relay protection equipment. The substation would be dual scanned from PG&E and HWT data centers, and redundant Inter-Control Center Communications Protocol servers would exchange SCADA data with CAISO with real-time situational awareness. The SCADA support personnel would perform daily checks of the applications and hardware to ensure they are in proper working order. The SCADA system would also be maintained to ensure compliance with NERC Critical Infrastructure Protection Standard requirements.

The proposed 230 kV substation would be remotely operated from a control center operated by a HWT affiliate, while the proposed 70 kV substation would be remotely operated by PG&E from its Grid Control Center. HWT and PG&E operations and maintenance personnel would generally perform monthly inspections of their respective substation facilities. More invasive checks, calibrations, and maintenance on the substation components would be performed periodically.

HWT has a CPUC-approved 2020 Wildfire Mitigation Plan (WMP) that provides a strategic framework for systematic reduction of HWT's potential wildfire risk and enhanced transmission system reliability. The 230 kV Estrella Substation would be incorporated into a future annual HWT submission of its WMP.

The proposed 70 kV power line components would operate unattended. An approximately 10-foot radius (approximately 314 square feet) may be maintained around new 70 kV power poles depending on location and equipment installed as required by applicable law, including CPUC G.O. 95. Project proponents may, therefore, keep these areas clear of natural vegetation. Vegetation growing too close to conductors within the easement would be trimmed or removed for safety. Herbicides may be used for some vegetation maintenance activities.

Inspections of the 70 kV power line segments would be performed annually by PG&E routine patrols, either from the ground or by helicopter. A detailed inspection of the power lines is typically performed by staff every 2 years (wood structures), with an air patrol inspection performed in between, as outlined in PG&E's 2016 Electric Transmission Preventative Maintenance Manual. For lines constructed on steel structures, detailed inspections would occur every 5 years. The inspection process involves routine patrols from existing local staff either on the ground or by helicopter tasked with patrolling the power lines. Normal inspection and patrols would typically be completed in a pickup truck and/or an off-road utility vehicle. While not expected, if walking is required, the inspector would complete portions of the inspection on foot. Climbing inspections would be performed on an as-needed basis, based on specific identified conditions and in compliance with CAISO guidelines and regulations.

With build-out of the distribution components, PG&E would continue to operate the 70 kV substation remotely from its Grid Control Center. The distribution feeders would continue to be operated and controlled from PG&E's Distribution Operations Office located in Concord, California. Existing operation and maintenance crews would monitor the distribution facilities as part of their current operation and maintenance activities. The distribution feeders would operate unattended.

2.7 Anticipated Permits and Approvals

The Proposed Project may be subject to a number of other regulatory permits and approvals, depending in part on the environmental analysis contained in this EIR, further surveys of environmental resources on or near the Proposed Project site, and the discretion of the regulatory agencies. Anticipated required permits and regulatory approvals for the Proposed Project are listed in Table-2-11 below.

Table 2-11. Anticipated Permits and Approvals and Applicable Regulatory Requirements

Regulatory Agency	Jurisdiction/Purpose	Permit/Authorization Type
Federal		
Federal Aviation Administration	Determination of No Hazard to Air Navigation	Aeronautical Study (7460-2 form)
State		
California Public Utilities Commission	Construction, modification, or alteration of power line facilities	Permit to Construct (G.O. 131-D)
California Department of Transportation	For use of California State highways for other than normal transportation purposes, including construction activities completed within the easement.	Standard Encroachment Permit
California Department of Transportation	Transport of oversize and/or overweight equipment (e.g., 230/70kv transformer and control house)	Transportation Permit
State Water Resources Control Board	Construction activities disturbing 1 acre or more of soil must submit a Notice of Intent to comply with the terms of the general permit.	National Pollution Discharge Elimination System Storm Water Permit
Local or Regional		
San Luis Obispo Air Pollution Control District	For conducting activities which may result in air pollution.	Air Pollution Control District Permit
City of Paso Robles	Construction in and adjacent to City property and right-of-way.	Encroachment Permit
County of San Luis Obispo	Construction in and adjacent to County property and right-of-way.	Encroachment Permit

Source: NEET West and PG&E 2017

2.8 Applicant Proposed Measures

The Applicants propose to implement measures to avoid and/or reduce potential impacts of the Proposed Project. Applicant-proposed measures (APMs) that would be implemented for the Proposed Project are listed in Table 2 12.

Table 2-12. Applicant-Proposed Measures

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
General				
GEN-1	**Prepare and Implement a Worker Environmental Awareness Program.** The project proponents will prepare and implement a project-specific worker environmental awareness program (WEAP) for construction personnel. All on-site construction personnel will attend the training before they begin work on the project. WEAP training materials will include avoidance and minimization measures being implemented to protect biological resources, surface and groundwater resources, cultural resources, and paleontological resources; minimize air quality impacts; and manage hazardous materials. WEAP training will also discuss terms and conditions of any permits or agreements, information on federal and state environmental laws, and consequences and penalties for violation or noncompliance with these laws and regulations and project permits. Workers will be informed about the presence, identification, life history, and habitat requirements of the special-status species that have a potential to occur in the project area. More specifically, training will include: ▪ Recognizing/avoiding exclusion areas and sensitive habitat and specific avoidance or minimization measures for sensitive species and habitats; ▪ How to identify cultural resources; avoidance requirements and procedures to be followed if unanticipated cultural resources are discovered during construction; disciplinary actions that may occur when historic preservation laws and project proponent policies are violated;	✓	✓	✓

[10] If the distribution components are constructed at the same time as the rest of the Proposed Project.

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	▪ How to identify paleontological resources, including types of fossils that could occur in the project area and types of lithologies in which the fossils could be preserved; avoidance requirements and procedures to be followed if a fossil is discovered during construction; penalties for disturbing paleontological resources; ▪ Hazardous substance spill prevention and containment measures; and ▪ Review of mitigation and avoidance measures. A brochure prepared by the project proponents conveying this information will be prepared for distribution to all construction staff and other individuals who enter the construction footprint. All WEAP trainees will receive a project sticker for their hard hat to show they have been trained, and will sign a training sign-in sheet verifying participation and that they understand the training and will comply with the information presented. Focused trainings may be directed at an individual's job-specific task, provided that the worker conducts activities within a limited scope (pilots, delivery drivers, site visitors, etc.).			
Aesthetics				
AES-1	**Substation Hardscaping.** Decorative rock and/or other hardscape landscaping will be installed between Estrella Substation and Union Road.	✓	N/A	N/A
AES-2	**Light and Glare Reduction.** Construction lighting and permanent substation exterior lighting will be selectively placed and shielded to minimize nighttime glare.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
Agriculture and Forest Resources				
AG-1	**<u>Coordinate with Landowners, Farmers, and Ranchers Regarding Construction Activities.</u>** The project proponents will work with farmers, ranchers, and landowners to schedule project-related construction activities in a manner that avoids conflicts with harvest and planting periods, to the extent feasible, and in a manner that minimizes disruptions to agricultural operations. Access across active fields shall be negotiated with the landowner in advance of any construction activities. Coordination will include advance notice of construction activities and reporting of complaints, as follows: ▪ Prior to construction, the project proponents will give at least 30 days' advance notice of the start of construction-related activities. Notification shall be provided by mailing notices to all properties within 300 feet of the substation or power line route. The notice will describe where and when construction activity is planned and shall provide contact information for a point of contact for complaints related to construction activities. ▪ Prior to commencing ground-disturbing activities, the project proponents will submit a copy of the template used for the notification letter and a list of the landowners notified to the California Public Utilities Commission (CPUC).	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
Air Quality				
AIR-1	**Minimize Reactive Organic Gases (ROG), Oxides of Nitrogen (NOx), and Particulate Matter (PM) Combustion.** ▪ Maintain all construction equipment in proper tune according to manufacturer's specifications; ▪ Fuel all off-road and portable diesel-powered equipment with California Air Resources Board (CARB)-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road); ▪ Use on-road heavy-duty trucks that meet CARB's 2010 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the state On-Road Regulation; ▪ Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOx exempt area fleets) may be eligible by proving alternative compliance; ▪ All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated staging areas and substation site to remind drivers and operators of the 5-minute idling limit; ▪ Electrify equipment when feasible; ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and ▪ Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
AIR-2	**Air Quality Best Available Control Technology for Construction Equipment.** Best available control technology measures for the project include: ▪ Reducing emissions by expanding use of Tier 3 off-road- and 2010 on-road-compliant engines; and ▪ Installing California Verified Diesel Emission Control Strategies.	✓	✓	✓
AIR-3	**Minimize Fugitive Dust.** ▪ Reduce the amount of the disturbed area where possible. ▪ Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. ▪ All dirt stock pile areas should be sprayed daily as needed. ▪ All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by San Luis Obispo Air Pollution Control District. ▪ Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface. ▪ All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114. ▪ Sweep streets at the end of each day if visible soil material extending over 50 feet is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where possible.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
Biological Resources				
BIO-1	**Conduct Pre-Construction Survey(s) for Special-Status Species and Sensitive Resource Areas.** Biologists will conduct pre-construction survey(s) for special-status species and sensitive resource areas immediately prior to construction activities within suitable aquatic and upland habitat for special-status species. If a special-status species is encountered on the project site, the project proponents will be contacted immediately to determine the appropriate course of action. For federally or state listed species, the project proponents will contact the appropriate resource agency (U.S. Fish and Wildlife Service [USFWS] and/or California Department of Fish and Wildlife [CDFW]), as required.	✓	✓	✓
BIO-2	**Avoid Impacts on Nesting Birds.** If 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 the species-specific buffers set forth in the project proponent's *Nesting Birds: Specific Buffers for PG&E Activities*, and will occur within 15 days prior to the start of work activities at designated construction areas, staging areas, and landing zones to determine nesting status by a qualified biologist. Nest surveys will be accomplished by ground surveys and/or by helicopter and will support phased construction, with surveys scheduled to be repeated if construction lapses in a work area for 15 days between March and July. Access for ground surveys will be subject to property access permission. Helicopter flight restrictions for nest detection surveys may be in effect for densely populated residential areas, and will include observance of appropriate established buffers and avoidance of hovering in the vicinity of active nest sites.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	If active nests containing eggs or young are found, the biologist will establish a species-specific nest buffer, as defined in the project proponent's *Nesting Birds: Specific Buffers for PG&E Activities*. Where feasible, standard buffers will apply, although the biologist may increase or decrease the standard buffers in accordance with the factors set forth in *Nesting Birds: Specific Buffers for PG&E Activities*. 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. Per 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 cessation of nearby project activities if nesting pairs exhibit signs of disturbance. All references in this applicant-proposed measure (APM) to qualified wildlife biologists refer to qualified biologists with a bachelor's degree or above in a biological science field and demonstrated field expertise in ornithology, in particular, nesting behavior.			
BIO-3	**Biological Monitoring.** Biologists will monitor initial ground-disturbing activities in and adjacent to sensitive habitat areas to ensure compliance with best management practices and APMs, unless the area has been protected by barrier fencing to protect sensitive biological resources and has been cleared by the biologists. The monitor will have authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	If a listed wildlife species is encountered during construction, project activities will cease in the area where the animal is found until the qualified biologist determines that the animal has moved out of harm's way or, with prior authorization from USFWS and/or CDFW if required, relocates the animal out of harm's way and/or takes other appropriate steps to protect the animal. Work may resume once the qualified biologist has determined that construction activities will not harm any listed wildlife species. The project proponents will be responsible for any necessary reporting to USFWS and/or CDFW.			
BIO-4	**Special-Status Species Protection.** All trenches/excavations in excess of 2 feet deep will have a sloped escape ramp or be covered at the end of the day. All trenches and excavations will be inspected for wildlife at the beginning of the workday and prior to backfilling. In addition, open-ended project-related pipes 4 inches or greater in diameter will be capped if left overnight or inspected for wildlife prior to being moved. If a special-status species is discovered in a trench, excavation, or pipe, the animal will be left undisturbed, and the pipe will not be moved until the special-status species has left the area on its own accord. In the event that any special-status species is trapped and unable to leave on its own accord, a permitted biologist, defined as a qualified biologist that holds the appropriate federal and/or state permits, will recover and relocate the special-status species. In addition, all food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers or kept in closed vehicles. Trash containers will be removed from the project area on a regular basis.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
BIO-5	**Dead or Injured Special-Status Wildlife.** If any dead or injured special-status wildlife or birds protected by the Migratory Bird Treaty Act are discovered at the project site during construction, work will stop in the immediate vicinity. The project proponents will notify the on-call biologist and the appropriate resource agency (USFWS and/or CDFW) before construction is allowed to resume.	✓	✓	✓
Cultural Resources				
CUL-1	**Retain a Qualified Cultural Principal Investigator.** A cultural resources principal investigator, defined as an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology, will be retained to ensure that all APMs related to archaeological and historical resources are properly implemented. The principal investigator may either be on staff with project proponents or an outside consultant, as appropriate for the project's needs, and will serve in a strictly supervisory capacity, overseeing crews charged with the application of the APMs in the field.	✓	✓	✓
CUL-2	**Avoidance.** The project is designed to avoid impacts to potentially California Register of Historical Resources (CRHR)-eligible resources identified within the study area. Potentially eligible (i.e., not evaluated) resources in the study area include archaeological sites 36052-S-001, 36052-S-002, and 36052-S-003. In addition, the Johnson House was evaluated for the project and is considered CRHR-eligible (pending CPUC concurrence). To avoid indirect and direct impacts to 36052-S-001, 36052-S-002, or 36052-S-003, a 50-foot buffer will be established around the boundary of each respective resource and designated as environmentally sensitive areas. If work within the 50-foot	N/A	✓	N/A

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	buffer cannot be avoided, then monitoring will be required. Methods of environmentally sensitive area delineation may include, as applicable, flagging, rope, tape, or fencing. The environmentally sensitive areas should be clearly marked on all pertinent construction plans. Construction activities will avoid impacts to the Johnson House entirely.			
CUL-3	**Inadvertent Discoveries.** In the event that unanticipated cultural materials are encountered during any phase of construction, all construction work within 50 feet of the discovery will cease and the principal investigator will be consulted to assess the find. Construction activities may continue in other areas. Avoidance of resources is the preferred option. However, if avoidance of a resource is not feasible, project proponents will assess the find for significance, as defined by Public Resources Code (PRC) Section 21083.2, through implementation of Phase II investigations. If resources are found to be significant, a detailed archaeological treatment plan, including Phase III data recovery, will be developed and implemented by a qualified archaeologist.	✓	✓	✓
CUL-4	**Discovery of Human Remains.** If human remains are discovered, all work within 50 feet of the discovery will cease and the environmental inspector or construction supervisor will notify the County coroner immediately. State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The lead cultural resource managers on staff with the project proponents (depending on the location of the remains) and the CPUC will also be notified of the find immediately. If the human remains are determined to be prehistoric, the County Coroner will notify the Native American Heritage Commission (NAHC), which would determine and notify a	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	most likely descendent. The most likely descendent will complete inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.			
CUL-5	**Tribal Construction Monitoring.** If it becomes necessary to work within 50 feet of Dry Creek, Huer Huero Creek, and the Salinas River, or known prehistoric archaeological sites, a tribal monitor will be selected by the CPUC and retained to conduct full-time monitoring of initial ground-disturbing activities (i.e., initial excavation and grading) in areas with high potential to discover prehistoric archaeological resources.	N/A	✓	N/A
CUL-6	**Archaeological Construction Monitoring.** If it becomes necessary to work within 50 feet of Dry Creek, Huer Huero Creek, and the Salinas River, or known prehistoric or historic sites, an archaeological monitor, approved by the principal investigator, will be retained to conduct monitoring of initial ground-disturbing activities (i.e., initial excavation and grading) in areas with high potential to discover prehistoric or historic archaeological resources.	N/A	✓	N/A
Geology and Soils (including Paleontological Resources)				
GEO-1	**Soft or Loose Soils.** Soft or loose soils, such as sands and loamy sands, are likely to be encountered during construction. Where soft or loose soils are encountered during design studies or construction, appropriate measures will be implemented to avoid, accommodate, replace, or improve soft or loose soils. Such measures may include the following:	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	▪ Locating construction facilities and operations away from areas of soft and loose soil.; ▪ Over-excavating soft or loose soils and replacing them with non-expansive engineered fill.; ▪ Increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction.; ▪ Treating soft or loose soils in place with binding or cementing agents.; and ▪ Construction activities in areas where soft or loose soils are encountered may be scheduled for the dry season, as necessary, to allow safe and reliable equipment access.			
PALEO-1	**Retain a Qualified Paleontological Principal Investigator.** A paleontological resources principal investigator who meets the standards set forth by the Society of Vertebrate Paleontology will be retained to ensure that all APMs related to paleontological resources are properly implemented.	✓	✓	✓
PALEO-2	**Inadvertent Discoveries.** If paleontological resources are discovered during construction activities, the following procedures will be followed: ▪ Stop work immediately within 50 feet. ▪ Contact the designated lead on staff with the project proponents (depending on the location of the resource) immediately. The designated lead will notify the CPUC. ▪ Protect the site from further impacts, including looting, erosion, or other human or natural damage. ▪ The principal investigator will evaluate the discovery and make a recommendation to the CPUC as to whether or not it is a unique	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	paleontological resource. The CPUC will have 24 hours to respond to this recommendation, and the lack of response within 48 hours will indicate concurrence with the recommendation. ▪ If the resource is not a unique paleontological resource, then it will be documented appropriately, and no further measures will be required. ▪ If the resource is a unique paleontological resource, the principal investigator, in consultation with the project proponent, will recommend resource-specific measures to protect and document the paleontological resource, such as photo documentation and avoidance or collection. The CPUC will have 24 hours to respond to these measures, with no response within 48 hours indicating concurrence**.** Unique resources inadvertently discovered during augering will be documented as indicated above, but, due to safety concerns, any remaining resource below ground will not be salvaged. If the resource can be avoided, then CPUC concurrence will not be necessary. ▪ If collection is necessary, the fossil material will be properly prepared in accordance with the project proponents, Society of Vertebrate Paleontology guidelines, and CPUC requirements, and/or curation at a recognized museum repository. Appropriate documentation will be included with all curated materials. ▪ Any material discovered on private land is the property of the landowner and permission must be granted by the landowner for the material to be removed and curated. Once the resource is determined to be not unique, or appropriate treatment is completed as described above, work may resume in the vicinity.			

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
PALEO-3	**<u>Paleontological Construction Monitoring.</u>** Paleontological monitors, approved by the paleontological resources principal investigator, will be retained to conduct monitoring of the initial ground-disturbing activities as described below. Monitoring requirements vary with the sensitivity of the mapped sediments and the type of construction activity, as follows: 1. *Estrella Substation:* High Surface Sensitivity – project areas mapped as older alluvium (Qoa) or Paso Robles formation (Qtp): ▪ In locations where the ground has been previously disturbed by agricultural or other development, monitoring is required only when excavations or grading exceed the depth of previous disturbance. For augering within the substation site, the proponents will follow the protocol identified below under Power Line. ▪ In locations where no previous disturbance exists, full-time monitoring is required when excavations, grading, or trenching exceeds 3 feet in depth. During monitoring, a qualified paleontological monitor, as determined by the principal investigator, will observe construction activity as well as check any spoils piles to watch for the appearance of fossil resources. Low Surface Sensitivity – project areas mapped as Holocene alluvium (Qa or Qg) – no fossils at the surface: ▪ No monitoring is required for surface work.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	▪ Should ground disturbance exceed the depth of the Holocene sediments (estimated to be 5 feet), monitoring is required as described above for high sensitivity. 2. *Power Line:* High Surface Sensitivity – project areas mapped as older alluvium (Qoa) or Paso Robles formation (Qtp): ▪ Full-time monitoring will not be required along the power line route. ▪ Augering that uses a drill bit 3 feet, or less, in diameter will not be monitored. Small-diameter drill bits generally result in pulverized rock by the time they reach the surface, so any fossils contained within will not be identifiable. Larger-diameter drill bits (i.e., greater than 3 feet) often bring up intact chunks of rocks that may contain identifiable and scientifically important fossils (particularly microfossils). All large angled tubular steel pole locations will be monitored. ▪ During work, a portion of the excavated material will be examined visually and through screen-sifting, if necessary. If screening is necessary, then a sample of spoils may be collected and processed either on site or off site as work on the pole placement proceeds. Should unique fossil material be discovered, it may be recorded and collected if the resource is determined by the principal investigator to be worth salvaging. Otherwise it will be recorded and included in the final monitoring report. Should it be determined that the type of auger or drill being used renders monitoring not useful (i.e., materials come out of the hole in a			

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	pulverized powder or a silty mud), monitoring will be discontinued. ▪ Because it is extremely unsafe and impractical to excavate fossils from within an auger bore or drill hole, and to do so would unnecessarily disturb fossils further, no effort will be made to collect buried fossils indicated in spoils materials. However, the location and nature of the materials identified will be recorded, and this will be documented in the final monitoring report and reported to repositories as appropriate. These measures are based on the currently available data. As construction proceeds and additional data become available, the principal investigator could revise these measures with CPUC concurrence. Should monitors identify fossil remains during the course of construction, APM PALEO-2 will be implemented. All monitoring activities will be documented on daily logs. Monitoring logs and reports will include the activities observed, geology encountered, description of any resources encountered, and measures taken to protect or recover discoveries. Photographs and other supplemental information will be included as necessary. A final monitoring report will be developed to document locations, methods, and results of monitoring.			
PALEO-4	**Fossil Recovery.** In the event that unique paleontological resources are encountered, protection and recovery of those resources may be required. The principal investigator will oversee the recovery effort in consultation with the project proponents (depending on the location of the resource), the CPUC, and property owners as appropriate. The principal investigator may designate a paleontologist to implement the recovery, prepare specimens for	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	identification and preservation, and complete all field documentation in accordance with the project proponents, Society of Vertebrate Paleontology guidelines, and CPUC requirements, and/or curation at a recognized museum repository. If a fossil is not accepted by a museum for curation, then project proponents will have fulfilled their obligation for fossil recovery.			
Greenhouse Gas Emissions				
GHG-1	**Minimize Operational Sulfur Hexafluoride (SF_6) Emissions.** During operation and maintenance of Estrella Substation, the project proponents will do the following: ▪ Incorporate Estrella Substation into each of the project proponents' system-wide SF_6 emission reduction programs. CARB requires that company-wide SF_6 emission rate not exceed 1 percent by 2020. ▪ Upon construction completion, the project proponents will have implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor system-wide SF_6 leakage rates to facilitate timely replacement of leaking breakers. X-ray technology is used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As active members of the U.S. Environmental Protection Agency's SF_6 Emission Reduction Partnership for Electrical Power Systems, the project proponents have focused on reducing SF_6 emissions from their transmission and distribution operations. ▪ Require that the breakers at Estrella Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF_6.	✓	N/A	N/A

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	▪ Maintain substation breakers in accordance with the project proponents' maintenance standards. ▪ Comply with CARB's Early Action Items as these policies become effective.			
Hazards and Hazardous Materials				
HAZ-1	**Hazardous Substance Control and Emergency Response.** The project proponents will implement hazardous substance control and emergency response procedures as needed. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases of project construction through operation. The procedures address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. If it is necessary to store chemicals on site, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable. In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil will be tested and, if contaminated above hazardous waste levels, will be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations. All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following: ▪ Proper disposal of potentially contaminated soils. ▪ Establishing site-specific buffers for construction vehicles and equipment located near sensitive resources. ▪ Emergency response and reporting procedures to address hazardous material spills. ▪ Stopping work at that location and contacting the County Fire Department Hazardous Materials Unit immediately if visual contamination or chemical odors are detected. Work will be resumed at this location after any necessary consultation and approval by the Hazardous Materials Unit.			
***Hydrology and* Water Quality**				
HYDRO-1	**<u>Avoidance of Sensitive Aquatic Features.</u>** The project will be designed to avoid sensitive aquatic features (i.e., jurisdictional wetlands, waters, and riparian areas) to the extent feasible. Specific avoidance strategies include the following: ▪ Siting permanent structures in uplands outside of existing drainage features. ▪ Siting staging areas, pole/tower work areas, pull sites, and other temporary staging/materials storage areas in uplands outside of existing drainage features/riparian areas, utilizing developed/urban, agricultural land, or ruderal land in preference to native terrestrial or riparian habitats.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	▪ Selecting access roads and overland travel routes in uplands while avoiding other sensitive features (e.g., steep slopes, rare plant localities, and sensitive wildlife habitats). ▪ Should access or work areas be required through or within jurisdictional wetlands and waters, all regulated activities within jurisdictional wetlands and waters (e.g., waters of the United States and waters of the State) will require regulatory approval/permitting from the appropriate agency including U.S. Army Corps of Engineers [USACE], CDFW, and/or Regional Water Quality Control Board [RWQCB] prior to any work within jurisdictional features. Prior to construction, sensitive aquatic features slated for avoidance will be identified in the field and clearly marked for avoidance using flagging tape, fencing, and/or high-visibility signage. Construction personnel will be trained on feature avoidance marking and associated restrictions.			
Noise				
NOI-1	**Construction Schedule Limits.** The project proponents will limit grading, scraping, augering, and pole installation to 7:00 a.m. to 7:00 p.m. daily. Exceptions for work outside of these hours will follow the notification requirements outlined in APM AG-1.	✓	✓	✓
NOI-2	**Noise Minimization.** The project will incorporate various measures to reduce construction-related noise where feasible using the following methods: ▪ Construction equipment will use noise reduction devices that are no less effective than those originally installed by the manufacturer. ▪ Stationary equipment used during construction will be located as far as practical from sensitive noise receptors.	✓	✓	✓

APM No.	Title/Description	Applicability		
		Estrella Substation	Power Line	Distribution Components[10]
	▪ "Quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) will be used during construction when reasonably available.			
Transportation and Traffic				
TR-1	**Air Transit Control.** The project proponents will implement the following protocols that pertain to helicopter use during construction: ▪ Comply with all applicable Federal Aviation Administration regulations regarding air traffic; ▪ Helicopter operators will coordinate all project helicopter operations with the Paso Robles Municipal Airport before and during project construction; ▪ Coordinate with potentially affected residents or businesses to minimize the duration of necessary work and any resulting inconvenience; and ▪ Implement a congested area plan if the helicopter work will take place in a congested or densely populated area. A congested area is anywhere that includes the presence of the non-participating public. A densely populated area is an area of a city, town, or settlement that contains a large number of occupied homes, factories, stores, schools, and other structures.	N/A	✓	✓

Notes:

APM = applicant-proposed measure; CARB = California Air Resources Control Board; CDFW = California Department of Fish and Wildlife; CRHR = California Register of Historical Resources; CNG = compressed natural gas; CPUC = California Public Utilities Commission; LNG = liquefied natural gas; N/A = not applicable; NAHC =Native American Heritage Commission; NOx = oxides of nitrogen; PM = particulate matter; PRC = Public Resources Code; ROG = reactive organic gases; RWQCB = Regional Water Quality Control Board; SF_6 = sulfur hexafluoride; USACE = U.S. Army Corps of Engineers; USFWS = U.S. Fish and Wildlife Service; WEAP = worker environmental awareness program

2.9 Electric and Magnetic Fields

2.9.1 Overview

The CPUC does not consider electric and magnetic fields (EMF) to be an environmental issue in the context of CEQA because there is no agreement among scientists that EMF creates a potential health risk and because CEQA does not define or adopt standards for defining any potential risk from EMF.

The weather and the earth's geomagnetic field cause naturally occurring EMF, while various technological applications, such as communications technologies, personal electronic devices, electric generation and transmission, and radiological imaging cause man-made EMF. EMFs are typically characterized by their wavelength or frequency as either "non-ionizing" or "ionizing" [11] radiation, as shown in Table 2-13 below. In general, the higher the frequency of EMFs, the shorter their wavelength, and the shorter the wavelength, the greater the amount of energy is imparted when interacting with physical objects. From this table it can be seen that the EMF from the Proposed Project's power line would be "non-ionizing."

Hertz (Hz) is a unit of frequency that is defined as one cycle per second. With respect to EMF, Hz values reflect the rate at which electric and magnetic fields change their direction each second. In the U.S., electric transmission lines typically operate at 60 Hz, which is considered an extremely low frequency (ELF). By comparison, mobile phones operate at between 1.9 and 2.2 billion Hz (gigahertz), while X-rays operate at upwards of 30 X 10^{19} Hz (National Cancer Institute 2020).

Table 2-13. Types of EMF Radiation

Radiation Type	Definition	Forms of Radiation	Source Examples
Non-Ionizing	Low to mid-frequency radiation which is generally perceived as harmless due to its lack of potency.	Extremely Low Frequency Radiofrequency Microwaves Visual Light	Microwave ovens Computers House energy smart meters Wireless (WiFi) networks Cell phones Bluetooth devices Power lines

[11] Ionization is the process by which electrons are freed from atoms or electrons, thereby creating ions or charged particles. Ionizing radiation is radiation that carries enough energy to create ions.

Radiation Type	Definition	Forms of Radiation	Source Examples
			Magnetic resonance imaging devices
Ionizing	Mid to high-frequency radiation which can, under certain circumstances, lead to cellular and/or DNA damage with prolonged exposure.	Ultraviolet X-rays Gamma	Ultraviolet light X-rays ranging from 30 X 10^{16} Hertz (Hz) to 30 X 10^{19} Hz Some gamma rays

Notes: Hz = Hertz; WiFi = wireless

Source: National Institute of Environmental Health Sciences 2020

Electric Fields

Electric fields from power lines are created whenever the lines are energized, with the strength of the field dependent directly on the voltage of the line creating it. Electric field strength is typically described in terms of kV per meter (kV/m). Electric field strength attenuates (reduces) rapidly as the distance from the source increases. Electric fields are reduced in many locations because they are effectively shielded by most objects or materials such as trees or houses.

Unlike magnetic fields, which penetrate almost everything and are unaffected by buildings, trees, and other obstacles, electric fields are distorted by any object that is within the electric field including the human body. Even trying to measure an electric field with electronic instruments is difficult because the devices themselves will alter the levels recorded.

Magnetic Fields

Magnetic fields from power lines are created whenever current flows through power lines at any voltage. The strength of the field is directly dependent on the current in the line. Magnetic field strength is typically measured in milligauss (mG). Similar to electric fields, magnetic field strength attenuates rapidly with distance from the source. However, unlike electric fields, magnetic fields are not easily shielded by objects or materials. The nature of a magnetic field can be illustrated by considering a household appliance. When the appliance is energized by being plugged into an outlet but not turned on, no current flows through it. Under such circumstances, an electric field is generated around the cord and appliance, but no magnetic field is created. If the appliance is switched on, the electric field would still be present and a magnetic field would also be created. The electric field strength is directly related to the magnitude of the voltage from the outlet and the magnetic field strength is directly related to the magnitude of the current flowing in the cord and appliance.

The magnetic field levels of PG&E's overhead and underground transmission lines will vary depending upon the customer power usage. Magnetic field strengths for typical PG&E transmission line loadings at the edge of rights-of-way are approximately 10 to 90 mG (NEET West and PG&E 2017). Under peak load conditions, the magnetic fields at the edge of the right-

of-way would not likely exceed 150 mG. The strongest magnetic fields around the outside of a substation come from the power lines entering and leaving the station. The strength of the magnetic fields from transformers and other equipment decreases quickly with distance, such that beyond the substation fence, these magnetic fields are typically indistinguishable from background levels (NEET West and PG&E 2017).

2.9.2 Scientific Background and Regulations Applicable to EMF

EMF Research

For more than 20 years, questions have been asked regarding the potential effects of EMFs from power lines and research has been conducted to provide some basis for response. Earlier studies focused primarily on interactions with the electric fields from power lines. In the late 1970s, the subject of magnetic field interactions began to receive additional public attention and research levels increased. A substantial amount of research investigating both electric and magnetic fields has been conducted over the past several decades; however, much of the body of national and international research regarding EMF and public health risks remains contradictory or inconclusive.

Research related to EMF can be grouped into three general categories: cellular level studies, animal and human experiments, and epidemiological studies. Epidemiological studies have provided mixed results, with some studies showing an apparent relationship between magnetic fields and health effects while other similar studies not showing such a relationship. Laboratory studies and studies investigating a possible mechanism for health effects (mechanistic studies) provide little or no evidence to support this link.

Since 1979, public interest and concern specifically regarding magnetic fields from power lines has increased. The increase has generally been attributed to publication of the results of a single epidemiological study (Wertheimer and Leeper 1979). This study observed a statistical association between the high-current configuration (the “wire code”) of electric power lines outside of homes in Denver and the incidence of childhood cancer. The “wire code” was assumed to be related to current flow of the line. The study did not take measurements of magnetic field intensity. Since publication of the Wertheimer and Leeper study, many epidemiological, laboratory, and animal studies regarding EMF have been conducted.

Methods to Reduce EMF

EMF levels from transmission lines can be reduced in three primary ways: shielding, field cancellation, or increasing the distance from the source. Shielding, which reduces exposure to electric fields, can be actively accomplished by placing trees or other physical barriers along the transmission line right-of-way. Shielding also results from existing structures the public may use or occupy along the line. Since electric fields can be blocked by most materials, shielding is effective for the electric fields but is not effective for magnetic fields.

Magnetic fields can be reduced either by cancellation or by increasing distance from the source. Cancellation is achieved in two ways. A transmission line circuit consists of three “phases”: three separate wires (conductors) on a transmission tower. The configuration of these three conductors can reduce magnetic fields. First, when the configuration places the three

conductors closer together, the interference, or cancellation, of the fields from each wire is enhanced. This technique has practical limitations because of the potential for short circuits if the wires are placed too close together. There are also worker safety issues to consider if spacing is reduced. In underground lines, the three phases typically can be placed much closer together than for overhead lines because the cables have dielectric insulation.

The distance between the source of fields and the public can be increased by either placing the wires higher aboveground, burying underground cables deeper, or by increasing the width of the right-of-way. For transmission lines, these methods can prove effective in reducing fields because the reduction of the field strength drops rapidly with distance.

Scientific Panel Reviews

Numerous panels of expert scientists have convened to review the data relevant to the question of whether exposure to power-frequency EMF is associated with adverse health effects. These evaluations have been conducted in order to advise governmental agencies or professional standard-setting groups. These panels of scientists first evaluate the available studies individually, not only to determine what specific information they can offer, but also in terms of the validity of their experimental design, methods of data collection, analysis, and suitability of the authors' conclusions to the nature and quality of the data presented. Subsequently, the individual studies, with their previously identified strengths and weaknesses, are evaluated collectively in an effort to identify whether there is a consistent pattern or trend in the data that would lead to a determination of possible or probable hazards to human health resulting from exposure to these fields.

These reviews include those prepared by international agencies such as the World Health Organization (WHO), the international Non-Ionizing Radiation Committee of the International Radiation Protection Association, and governmental agencies of a number of countries, such as the U.S. Environmental Protection Agency, the National Radiological Protection Board of the United Kingdom, the Health Council of the Netherlands, and the French and Danish Ministries of Health. As noted below, these scientific panels have varied conclusions on the strength of the scientific evidence suggesting that power frequency EMF exposures pose any health risk.

In May 1999, the National Institute of Environmental Health Science (NIEHS) submitted to Congress its report titled, *Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields*, containing the following conclusion regarding EMF and health effects:

> Using criteria developed by the International Agency for Research on Cancer (IARC), none of the Working Group considered the evidence strong enough to label ELF-EMF exposure as a known human carcinogen or probable human carcinogen. However, a majority of the members of this Working Group concluded that exposure to power-line frequency ELF-EMF is a possible carcinogen.

In June 2001, a scientific working group of IARC (an agency of WHO) reviewed studies related to the carcinogenicity of EMF. Using standard IARC classification, magnetic fields were classified as "possibly carcinogenic to humans" based on epidemiological studies. "Possibly carcinogenic to humans" is a classification used to denote an agent for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals.

On behalf of the CPUC, the California Department of Health Services (DHS) completed a comprehensive review of existing studies related to EMF from power lines and potential health risks. This risk evaluation was undertaken by three staff scientists with the DHS. Each of these scientists is identified in the review results as an epidemiologist, and their work took place from 2000 to 2002. The results of this review, titled *An Evaluation of the Possible Risks from Electric and Magnetic Fields from Power Lines, Internal Wiring, Electrical Occupations, and Appliances,* were published in June 2002. The conclusions contained in the executive summary are provided below:

- To one degree or another, all three of the DHS scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's Disease, and miscarriage.

- They strongly believe that EMFs do not increase the risk of birth defects or low birth weight.

- They strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure.

- To one degree or another, they are inclined to believe that EMFs do not cause an increased risk of breast cancer, heart disease, Alzheimer's Disease, depression, or symptoms attributed by some to sensitivity to EMFs. However, all three scientists had judgments that were "close to the dividing line between believing and not believing" that EMFs cause some degree of increased risk of suicide.

- For adult leukemia, two of the scientists are "close to the dividing line between believing or not believing" and one was "prone to believe" that EMFs cause some degree of increased risk.

The report indicates that the DHS scientists are more inclined to believe that EMF exposure increased the risk of the health problems than the majority of the members of scientific committees that have previously convened to evaluate the scientific literature. With regard to why the DHS review's conclusions differ from those of other recent reviews, the report states:

> The three DHS scientists thought there were reasons why animal and test tube experiments might have failed to pick up a mechanism or a health problem; hence, the absence of much support from such animal and test tube studies did not reduce their confidence much or lead them to strongly distrust epidemiological evidence from statistical studies in human populations. They therefore had more faith in the quality of the epidemiological studies in human populations and hence gave more credence to them.

While the results of the DHS report indicate these scientists believe that EMF can cause some degree of increased risk for certain health problems, the report did not quantify the degree of risk or make any specific recommendations to the CPUC.

In addition to the uncertainty regarding the level of health risk posed by EMF, individual studies and scientific panels have not been able to determine or reach consensus regarding what level of magnetic field exposure might constitute a health risk. In some early epidemiological studies,

increased health risks were discussed for daily time-weighted average field levels greater than 2 mG. However, the IARC scientific working group indicated that studies with average magnetic field levels of 3 to 4 mG played a pivotal role in their classification of EMF as a possible carcinogen.

The 2007 WHO [Environmental Health Criteria 238] report concluded that:

- Evidence for a link between ELF (50 to 60 Hz) magnetic fields and health risks is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia. However, "…virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status…the evidence is not strong enough to be considered causal but sufficiently strong to remain a concern."

- "For other diseases, there is inadequate or no evidence or health effects at low exposure levels."

2.9.3 Policies, Standards, and Regulations

A number of counties, states, and local governments have adopted or considered regulations or policies related to EMF exposure. The reasons for these actions have been varied; in general, however, the actions can be attributed to addressing public reaction to and perception of EMF as opposed to responding to the findings of any specific scientific research.

In 1991, the CPUC initiated an investigation into electric and magnetic fields associated with electric power facilities. This investigation explored the approach to potential mitigation measures for reducing public health impacts and possible development of policies, procedures or regulations. Following is a brief summary of CPUC guidelines and regulatory activity regarding EMF.

CPUC Decision No. 93-11-013

In Decision No. 93-11-013, the CPUC took interim steps to address EMFs related to electric utility facilities and power lines. Based on its investigation of the possible impacts of EMF exposure associated with electric utility installations, the CPUC recommended the following:

- No-cost and low-cost steps to reduce EMF levels;

- Workshops to develop EMF design guidelines;

- Uniform residential and workplace EMF measurement programs;

- Stakeholder and public involvement; and

- Funding for educational and research programs.

In explaining and justifying its decision, the CPUC stated that although the scientific community had not yet isolated the impact, if any, of utility-related EMF exposures on public health, other jurisdictions and agencies have concluded that the best response to EMFs is to avoid

unnecessary new exposure to EMFs if such avoidance can be achieved at a cost that is reasonable in light of the risk identified. The decision stated that "low-cost" steps to reduce EMF levels should be defined as roughly 4 percent of the total cost of a budgeted project, but emphasized that this should not be a hard-and-fast rule and that utilities should implement more or less costly solutions as they are determined to be effective.

CPUC Decision No. 06-01-042 and More Information

In 2006, the CPUC revisited the EMF issue it had covered in its Decision No. 93-11-013 and affirmed its "low-cost/no-cost" policy for mitigation of EMF exposure for new utility transmission and substation projects. Decision No. 06-01-042 also reaffirmed the CPUC's policy of using a benchmark of 4 percent of transmission and substation project costs for EMF mitigation. In addition, Decision No, 06-01-042 adopted rules and policies to improve utility design guidelines for reducing EMF, and provided for a utility workshop to implement the policies and standardize design guidelines. Finally, Decision No. 06-01-042 restated the CPUC's position that it is unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences.

The CPUC's EMF Design Guidelines for Electrical Facilities (July 21, 2006) document is available at www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/infrastructure/emfs/ca_emf_design_guidelines.pdf~~www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=4884~~. More information about activities taken by the CPUC with respect to EMFs can be found at: www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/permitting-and-environmental-review/electric-magnetic-fields/puc-actions-regarding-emfs ~~www.cpuc.ca.gov/General.aspx?id=4879~~.

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Revised DEIR Section 4.2 – Agriculture and Forestry Resources

4.2 Agriculture and Forestry Resources

4.2.1 Introduction

This section describes the setting and potential impacts on agriculture resources that could occur from the proposed Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project), reasonably foreseeable distribution components, and alternatives. Impacts to agriculture resources under California Environmental Quality Act (CEQA) generally include conversion of agricultural land to non-agricultural uses, conflicts with zoning for agricultural use or California Land Conservation Act of 1965 (Williamson Act) contracts, or other changes to the physical environment resulting in a conversion of farmland to non-agricultural use. Because there are no forest lands or timberland in the vicinity of the Proposed Project, reasonably foreseeable distribution components, or alternatives, potential impacts to forestry resources were dismissed from detailed consideration.

4.2.2 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies related to agriculture or forestry resources are applicable to the Proposed Project, reasonably foreseeable distribution components, or alternatives.

State Laws, Regulations, and Policies

Farmland Mapping and Monitoring Program

The California Department of Conservation (CDOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982, as a non-regulatory program to provide a consistent and impartial analysis of agricultural land use and land use changes throughout California. FMMP now maps agricultural and urban land use for nearly 98 percent of the state's privately held land. FMMP rates and classifies agricultural land according to soil quality, irrigation status, and other criteria. Important Farmland categories are as follows (CDOC 2020a):

> **Prime Farmland:** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
>
> **Farmland of Statewide Importance:** Farmland similar to Prime Farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

Unique Farmland: Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Other FMMP categories include Grazing Land, Urban and Built-Up Land, Other Land, and Water.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) is designed to preserve agricultural and open space land. It establishes a program of private landowner contracts that voluntarily restrict land to agricultural and open space uses. The program is a two-step process involving the establishment of an agricultural preserve by the local legislative body and then approval of a land conservation contract. In return, Williamson Act parcels receive a lower property tax rate consistent with their actual use instead of their market value. Lands under contract may also support uses that are "compatible with the agricultural, recreational, or open-space use of [the] land" subject to the contract (California Government Code Section 51201[e]). Under Government Code Section 51238, electric facilities are a compatible use.

Government Code Section 51290 states that "(a) it is the policy of the state to avoid, whenever practicable, the location of any federal, state, or local public improvements and any improvements of public utilities, and the acquisition of land therefor, in agricultural preserves," and "(b) it is further the policy of the state that whenever it is necessary to locate such an improvement within an agricultural preserve, the improvement shall, whenever practicable, be located upon land other than land under a contract pursuant to this chapter." However, Section 51293 goes on to list as exempt from the requirements preventing placement of public improvements within Williamson Act contract lands: "the location or construction of any public utility improvement which has been approved by the Public Utilities Commission."

California Farmland Conservancy Program

The California Farmland Conservancy Program is established under Public Resources Code (PRC) Section 10200-10277 to promote the long-term preservation of agricultural lands in California though the use of agricultural conservation easements. In addition to funding provided for agricultural easement acquisition, California Farmland Conservancy Program grant funds are available for projects that develop policy or planning oriented to agricultural land protection, and for improvements to land already under an agricultural conservation easement (e.g., erosion control, riparian area improvements). The program is authorized to accept donations from private entities if CDOC is the designated beneficiary of the donation and it uses the funds for purposes of the program in a county specified by the donor (PRC Section 10231.5).

4.2.3 Environmental Setting

Regional Setting

California is the leading agriculture-producing state, with a total market value of approximately $45.1 billion in agricultural products sold in 2017 (U.S. Department of Agriculture [USDA] National Agricultural Statistics Service [NASS] 2019). The California Department of Food and Agriculture (CDFA) reported $50.3 billion in sales in 2017, a 6.7 percent increase over 2016. California remained the number one state in cash farm receipts, comprising 13.4 percent of the U.S. total (CDFA 2018).

The Proposed Project, reasonably foreseeable distribution components, and alternatives would be located in San Luis Obispo County, which is the 15th-ranked county in California in terms of overall agricultural production (CDFA 2018). Total crop value in San Luis Obispo County was $924.7 million in 2017, which was a 0.6 percent decrease from the $929.9 million in sales recorded in 2016 (CDFA 2018). The top two commodities in the ~~C~~county in 2017 were wine grapes and strawberries, accounting for 50 percent of the total combined value of the ~~C~~county's agricultural industry. Wine grape sales totaled $268 million (~29 percent) and fresh strawberries were valued at $200 million (~22 percent). Other 2017 top 10 commodities in San Luis Obispo County included: vegetables ($105.9 million), cattle and calves ($43.2 million), broccoli ($43.0 million), nursery plants ($33.1 million), processing strawberries ($28.2 million), avocados ($27.3 million), cut flowers ($27.2 million), and fruits and nuts ($26.2 million) (CDFA 2018). San Luis Obispo County has a total of 397,187 acres of Important Farmland, including 41,188 acres of Prime Farmland (CDOC 2016a).

Existing Agricultural Uses and Zoning

The proposed Estrella Substation would be located on one of five contiguous parcels comprising Steinbeck Vineyards & Winery. The proposed substation would be located on an approximately 15-acre portion of an approximately 20-acre parcel, which would be created from an existing 98-acre parcel (APN 015-053-011) that currently supports vineyards and is surrounded on all sides by vineyards and other agricultural uses (e.g., wineries, orchards, dry farming, grazing) (Horizon West Transmission, LLC formerly NextEra Energy Transmission West, LLC [NEET West] and Pacific Gas and Electric Company [PG&E] 2017). The proposed substation site and all surrounding areas are within the County of San Luis Obispo's (County's) Agriculture land use designation (refer to Section 4.11, "Land Use and Planning" for additional discussion of land use designations and zoning).

Portions of the Proposed Project's new 70 kilovolt (kV) power line segment would pass through areas of existing agricultural uses, including vineyards, orchards, dry farming, and grazing lands, as well as agricultural accessory uses within rural residential areas (NEET West and PG&E 2017). Other portions would be constructed within existing and new utility corridors. Identified temporary staging areas and pull sites located along the new 70 kV power line segment are also comprised of vineyards, row crops, and dry farming (NEET West and PG&E 2017). The entire length of the new 70 kV power line segment in the unincorporated county is within the County's Agriculture land use designation (though a portion of the power line extends along the boundary between an Agriculture and Residential Rural designation). Within the City of Paso Robles (City), a portion of the new power line segment extends adjacent to a Residential

Agriculture (RA) zoning district in the eastern portion of the city. The majority of the Proposed Project's 70 kV power line reconductoring segment would extend through urbanized areas in the City of Paso Robles where there are minimal existing agricultural uses, although some larger parcels support limited grazing and/or equestrian uses and dry farming (particularly in an area approximately 0.25 mile south of Creston Road) (NEET West and PG&E 2017).

The reasonably foreseeable distribution components would pass through largely agricultural areas, as well as along road rights-of-way. In particular, the southern new distribution line segment would be installed along an existing dirt road through agricultural fields north of the proposed Estrella Substation site. A portion of the northern new distribution line segment also would pass through existing agricultural fields (see Figure 2-10 in Chapter 2, *Project Description*). These components would largely occur in the County's Agriculture designation.

Of the alternatives under consideration that are located entirely or partially outside of the City of Paso Robles limits (Alternatives SS-1, PLR-1A, PLR-1C, SE-1A, and SE-PLR-2), these alternatives are primarily within the County's Agriculture or Residential Rural land use designations. In particular, both the Bonel Ranch Substation Site (Alternative SS-1) and Templeton Substation Expansion Site (Alternative SE-1A) are designated for Agriculture and currently under agricultural production, the former of which is used to grow alfalfa. The majority of the lengths of the new and reconductored power line segments under Alternatives PLR-1A and PLR-1C would pass through active agricultural lands designated for Agriculture, as shown on Figure 4.11-1 in Section 4.11, "Land Use and Planning." Portions of the Alternative SE-PLR-2 route would pass through agricultural lands, as well as lands designated Residential Rural by the County. Alternative PLR-3 (both options) would not be located on any lands currently under agricultural production or zoned/designated for agriculture use. Of the example FTM sites under Alternative BS-2, only front-of-the-meter (FTM) Site 6 would be located on lands currently under agricultural production and designated for agriculture (the example FTM Site 6 would be in the same location as Alternative SE-1A).

Important Farmland

As noted above, San Luis Obispo County as a whole had 397,187 acres of Important Farmland, including 41,188 acres of Prime Farmland, as of 2016. Table 4.2-1 shows the breakdown of Important Farmland on the proposed Estrella Substation site and the 20-acre parcel.

Table 4.2-1. FMMP Acreage at the Estrella Substation Site and Parcel

FMMP Category	Substation Site		Substation Parcel	
	Area (acres)	Percentage[1]	Area (acres)	Percentage[1]
Farmland of Statewide Importance	~~2.66~~2.62	17%	2.62	13%
Unique Farmland	~~11.70~~11.72	~~77%~~78%	16.26	81%
Farmland of Local Potential	~~0.70~~0.62	~~5%~~4%	0.62	3%
Grazing Land	~~0.11~~0.04	<1%	0.48	2%

FMMP Category	Substation Site		Substation Parcel	
	Area (acres)	Percentage[1]	Area (acres)	Percentage[1]
Total	**15.17**	**100%**	**20.0**	**100%**

Note: FMMP = Farmland Mapping and Monitoring Program

1. Due to rounding, percentages do not add up to 100 percent.

Source: CDOC 2016b

As shown in Table 4.2-1, approximately 17 percent (~~2.66~~2.62 acres) of the site is Farmland of Statewide Importance, while ~~77~~78 percent (~~11.70~~11.72 acres) is Unique Farmland and a small percentage is Farmland of Local Importance and Grazing Land. FMMP mapping at the proposed Estrella Substation site and throughout the vicinity of the Proposed Project, reasonably foreseeable distribution components, and alternatives is shown in Figure 4.2-1.

Some portion of the Proposed Project's 70 kV power line route extends through every mapped category of Important Farmland. In particular, the portion of the new power line segment along Union Road and south of State Route (SR) 46 passes primarily through Unique Farmland and Farmland of Local Potential, with small areas mapped as Farmland of Statewide Importance (see Figure 4.2-1). Additionally, the northwestern portion of the new power line segment passes through areas of Farmland of Local Potential, Unique Farmland, Farmland of Statewide Importance, and a small area of Prime Farmland. The Proposed Project's reconductoring segment extends predominantly through Grazing Land and Urban and Built-up Land. The southern reasonably foreseeable new distribution line would extend through Unique Farmland, while the remainder of the reasonably foreseeable distribution components would not be located on mapped Important Farmland.

Both Alternative SS-1 and SE-1A sites would be on lands mapped as Farmland of Local Importance as well as Farmland of Local Potential. Similar to the proposed 70 kV power line segment, Alternatives PLR-1A and PLR-1C would extend through every mapped category of Important Farmland. Alternative SE-PLR-2 would extend through every mapped category except Prime Farmland and Unique Farmland. Alternative PLR-3 (both options) would occur primarily on Farmland of Local Potential, Grazing Land, and Urban and Built-up Land. Example FTM Sites 1 to 4 and 6 to 8 under Alternative BS-2 would be located on lands mapped as Farmland of Local Potential, Urban and Built-up Land, and Other Land, while the example FTM Site 5 would be located on Farmland of Local Importance.

Williamson Act Contract Lands

The entire 98-acre Steinbeck Vineyards & Winery parcel, on which the proposed Estrella Substation would be located, is currently subject to a Williamson Act contract (NEET West and PG&E 2017; CDOC 2016c). This contract is active and no non-renewal or cancellation process has been initiated. Parcels immediately adjacent to the west and north of the Steinbeck parcel are also under Williamson Act contracts, as well as additional non-contiguous parcels located less than 1 mile to the west, north, and south of the Steinbeck parcel. Figure 4.2-2 shows lands under Williamson Act contracts in the Proposed Project, reasonably foreseeable distribution components, and alternatives vicinity. Approximately 1.5 miles of the Proposed Project 70 kV power line route would extend through parcels currently subject to a Williamson Act contract. These lands are primarily located along the easternmost portion of the 70 kV Power Line route

near the proposed substation. No Williamson Act contracts along the Proposed Project 70 kV power line route are currently in the non-renewal process.

As shown on Figure 4.2-2, the land through which the southern reasonably foreseeable new distribution line would be installed is under a Williamson Act contract. With respect to the alternatives, approximately 1.1 miles of the length of the Alternative PLR-1A new power line route would extend through parcels currently subject to a Williamson Act Contract. Additional Williamson Act lands are located along the Alternative PLR-1A/PLR-1C reconductoring segments. No Williamson Act lands are located on or in close proximity to Alternatives SS-1, PLR-3, SE-1A, SE-PLR-2, or BS-2 (example FTM sites).

Bonel Ranch Substation Site (Alternative SS-1)

FTM Site 5

Estrella Substation (Proposed)

Paso Robles Substation

FTM Site 4

FTM Site 2

FTM Site 1

FTM Site 3

Templeton Substation

Templeton Substation Expansion (Alternative SE-1A)

FTM Site 6

San Miguel Substation

FTM Site 8

FTM Site 7

Atascadero Substation

San Miguel

Inset Map

Main Map

Paso Robles

Atascadero

Inset Map

San Luis Obispo

2859 ft

N

0 1 Miles

Proposed Project

- Estrella Substation
- 70kV Route
- 70 kV Minor Route Variation 1

Reasonably Forseeable Distribution Components

- New Distribution Line Segments
- Additional 21/12 kV Pad-Mounted Transformer

Existing Infrastructure

- Existing Substations

Project Alternatives

- Front-of-the-Meter (FTM) Battery Storage Sites (Alternative BS-2)
- Alternative SS-1: Bonel Ranch Substation Site
- Alternative SE-1A: Templeton Substation Expansion - 230/70 kV Substation
- Alternative PLR-1A: Estrella Route to Estrella Substation
- Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1
- Alternative PLR-1C: Minor Route Variation 1
- Alternative PLR-1C: Minor Route Variation 2
- Alternative PLR-3A: Strategic Undergrounding, Option 1
- Alternative PLR-3B: Strategic Undergrounding, Option 2
- Alternative SE-PLR-2: Templeton-Paso South River Road Route

Farmland Mapping and Monitoring Program

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Farmland of Local Potential
- Grazing Land
- Urban and Built-up Land
- Other Land

Source: ESRI 2018, PG&E 2019, SCWA 2017, CDOC FMMP 2016

Note: The route variations shown are offset and simplified in order to display the alignments of the alternative routes that may overlap in places

Horizon WATER and ENVIRONMENT

Figure 4.2-1
Important Farmland

Estrella Substation and Paso Robles Area Reinforcement Project

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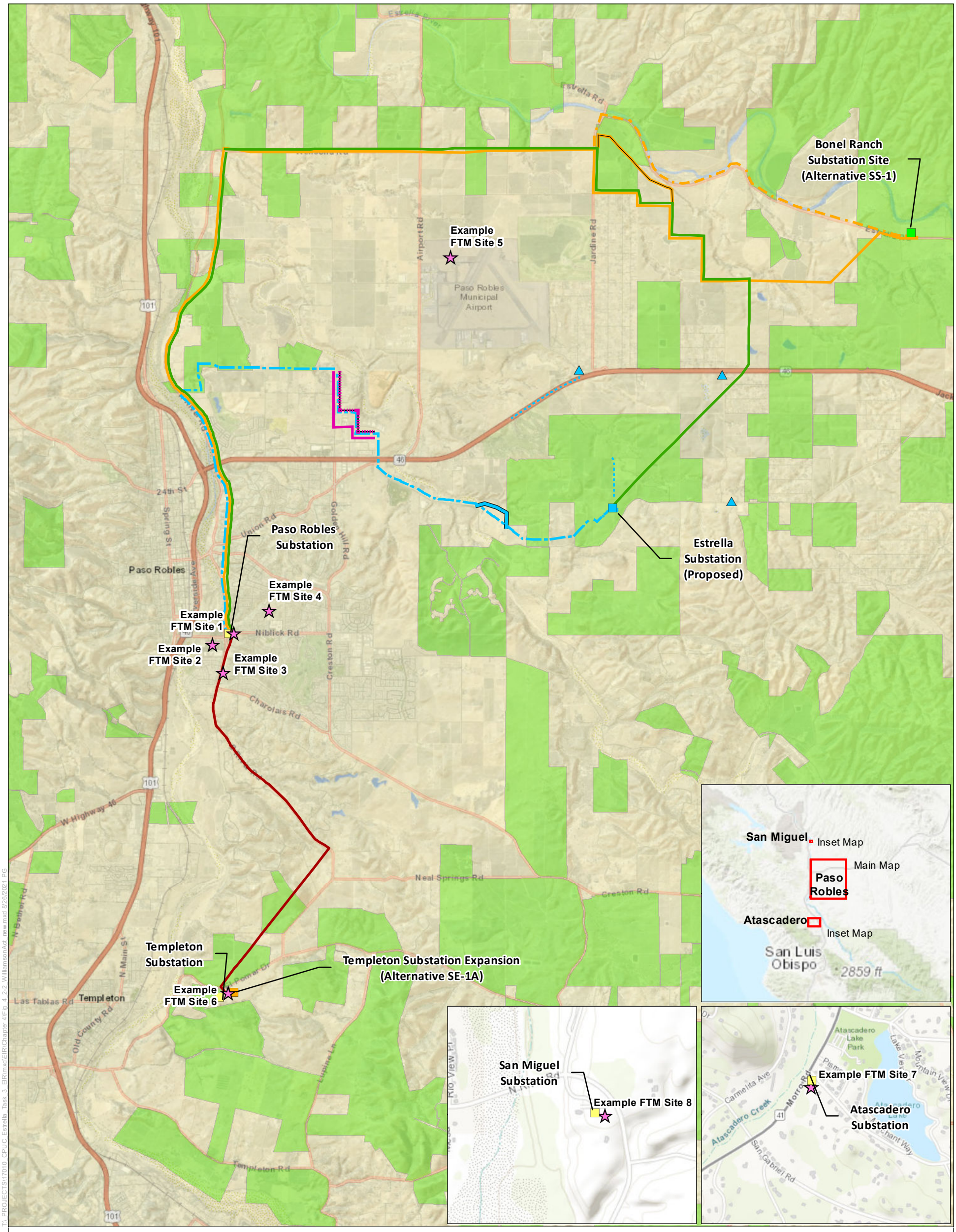

Figure 4.2-2
Williamson Act Lands

Source: ESRI 2018, PG&E 2019, SCWA 2017, SLO County 2021

Note: The route variations shown are offset and simplified in order to display the alignments of the alternative routes that may overlap in places

Estrella Substation and
Paso Robles Area Reinforcement Project

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4.2.4 Impact Analysis

Methodology

The analysis of agriculture and forestry resource impacts was both quantitative and qualitative in nature and involved comparing aspects of the Proposed Project, reasonably foreseeable distribution components, and alternatives to the significance criteria described below. The analysis considered the existing laws, regulations, and policies described in Section 4.2.2 "Regulatory Setting" and in Appendix A, as well as the existing land uses and agricultural resources described in Section 4.2.3, "Environmental Setting."

Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project, reasonably foreseeable distribution components, and alternatives would result in a significant impact on agriculture and forestry resources if they would:

A. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural 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 PRC Section 12220[g]), timberland (as defined by PRC 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 in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits; or

E. Involve other changes in the existing environment that, because of their location or nature, could result in a conversion of Farmland to a nonagricultural use.

Because there are no forest lands or timberland in the vicinity of the Proposed Project, reasonably foreseeable distribution components, or alternatives, criteria "C" and "D" above are dismissed from detailed consideration.

Environmental Impacts

Proposed Project

Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use – *Significant and Unavoidable*

The proposed substation site and portions of the 70 kV powerline route are located on areas of Important Farmland and the proposed substation site is currently an active vineyard. Therefore, installation of the Proposed Project components would result in conversion of agricultural lands

to non-agricultural uses. Additionally, staging areas and temporary work areas (e.g., pole work area, pull sites) would be sited on lands under agricultural use and/or mapped as Important Farmland, resulting in temporary impacts to these uses. Table 4.2-2 shows the known permanent agricultural land conversion and temporary impacts to agricultural land that would occur as a result of the Proposed Project.

Table 4.2-2. Known Agricultural Land Impacts from the Proposed Project

FMMP Category	Estrella Substation (acres)	Power Line Route (acres)	Total (acres)
Permanent Conversion			
Prime Farmland	-	<0.01	<0.01
Farmland of Statewide Importance	~~2.66~~2.62	~~<0.01~~0.03	~~2.66~~2.65
Unique Farmland	~~11.70~~11.72	0.06	~~11.76~~11.78
Farmland of Local Importance	-	0.02	0.02
Farmland of Local Potential	~~0.70~~0.62	~~0.25~~0.27	~~0.95~~0.89
Grazing Land	~~0.11~~0.04	0.29	~~0.40~~0.33
Total	**~~15.17~~15**	**~~0.62~~0.67**	**~~15.79~~15.67**
Temporary Impacts			
Prime Farmland	-	0.69	0.69
Farmland of Statewide Importance	~~0.32~~-	4.58	~~4.90~~4.58
Unique Farmland	~~5.90~~0.18	~~19.38~~19.5	~~25.28~~19.68
Farmland of Local Importance	-	5.71	5.71
Farmland of Local Potential	-	~~40.76~~42.14	~~40.76~~42.14
Grazing Land	~~0.02~~0.18	21.10	~~21.12~~21.28
Total	**~~6.24~~0.18**	**~~92.22~~93.44**	**~~98.46~~93.62**

Note: FMMP = Farmland Mapping and Monitoring Program

Source: CDOC 2016b

Permanent conversion of agricultural land would occur from removal of existing vineyards at the substation site and removal of existing vineyard and row crops for the placement of lattice steel towers (LSTs), tubular steel poles (TSPs), and light-duty steel poles (LDSPs) as part of the 70 kV power line route construction. The entire substation site would be graded and developed as part of the substation construction, which would involve removal of all the vineyard crops currently on the site. Permanent conversion of agricultural land along the Proposed Project's 70 kV power line would occur within the immediate footprint of individual poles, as well as 10-foot radius around each pole that would be maintained clear of vegetation. As shown in Table 4.2-2, the Proposed Project (substation and power line) would permanently convert ~~2.66~~2.65 acres of Farmland of Statewide Importance and ~~11.76~~11.78 acres of Unique Farmland to non-agricultural uses. Additionally, 0.69 acres of Prime Farmland, ~~4.9~~4.58 acres of Farmland

of Statewide Importance, and ~~25.28~~19.68 acres of Unique Farmland would be temporarily affected by the Proposed Project construction activities. Temporary effects include temporary loss or destruction of crops, placement of rock and materials, compaction of soil from heavy equipment and vehicles, and removal of topsoil.

Additionally, with HWT's purchase of the larger 20-acre site, on which the roughly 15-acre Estrella Substation would be located, there is potential for an additional 5 acres of Unique Farmland to be impacted and converted to non-agricultural uses. Horizon West Transmission (HWT) has stated that the additional 5 acres "will not be used during or following construction for any project activities" (HWT 2021b). However, given that the land would be owned by HWT, even if the land would not be used for utility purposes (at this time), it may be allowed to go fallow and/or may be managed in accordance with HWT's vegetation management guidelines (Kidwell, pers. comm., 2021). The continuance of farming on the parcel would be at the discretion of the former landowner (or possibly another entity). Although HWT reports that an agreement has been reached with the landowner to continue farming this area, this agreement could be terminated or not renewed in the future. As such, the ultimate fate of this additional 5-acre area is unknown at this time. Because it may be impacted or otherwise converted to non-agricultural uses, there is potential for a permanent conversion of a total of 18.9 acres of Important Farmland (excluding Grazing Land, Farmland of Local Potential, and Farmland of Local Importance) to non-agricultural uses as a result of the Proposed Project.

The permanent conversion of Important Farmland to non-agricultural uses that would occur from development of the Proposed Project would constitute a significant impact. Land with the high-quality soils and characteristics necessary to produce high yields of the State's valued produce is a limited resource, and Important Farmland is under continued threat from urbanization pressures throughout California. To reduce this impact, **Mitigation Measure AG-1** would be implemented, which would require contribution of funds to the California Farmland Conservancy Fund to support conservation of agricultural land in San Luis Obispo County. Implementation of this mitigation measure would help ensure protection and preservation of high-quality agricultural lands elsewhere in the ~~C~~county; however, this compensatory mechanism would not fully offset the significant impact because it would not create any new Important Farmland (rather, it would protect existing agricultural land). As such, the acreage lost due to the Proposed Project would still be lost permanently. Therefore, this impact would remain significant.

With respect to temporary impacts on Important Farmland, the Applicants (Pacific Gas & Electric Company and Horizon West Transmission collectively) would implement applicant proposed measure (APM) AG-1, which would require that the Applicants coordinate with farmers, ranchers, and landowners to schedule Proposed Project construction activities in a manner that avoids conflicts with harvest and planting periods, to the extent feasible, and that minimizes disruptions to agricultural operations. Additionally, following construction, all areas temporarily disturbed by the Proposed Project would be restored by the Applicants to the extent practicable, including returning areas to their original contours and drainage patterns (see Chapter 2, Section 2.5.5, "Cleanup and Restoration"). While these measures would reduce the severity of temporary impacts, the temporary impacts to agricultural lands could still be significant if removed crops were not replanted and/or if the long-term productivity of these areas were adversely affected (e.g., due to soil compaction). To reduce these potentially significant impacts, **Mitigation Measure AG-2** would be implemented, which would require that

the Proposed Project Applicants restore agricultural lands following construction activities to pre-project conditions, including replacement of topsoil/crops and de-compaction of soils, if necessary. This mitigation measure would avoid any long-lasting or residual impacts on agricultural land from the Proposed Project construction activities, so temporary construction impacts on agricultural lands would be less than significant.

Overall, in spite of implementation of mitigation measures, the permanent loss of agricultural land that would occur from the Proposed Project would remain a significant impact. No other feasible mitigation measures were identified to reduce this impact to a level that is less than significant. Therefore, this impact is **significant and unavoidable**.

Mitigation Measure AG-1: Provide Compensation for Loss of Agricultural Land.

HWT and PG&E, prior to the completion of Proposed Project or alternative construction, shall contribute sufficient funds (i.e., adequate to support the conservation ratio described below) to the California Farmland Conservancy Program to compensate for the loss of Farmland of Statewide Importance and Unique Farmland that would occur from the Proposed Project or alternatives. The California Farmland Conservancy Program is established under PRC Sections 10200-10277 to promote the long-term preservation of agricultural lands in California though the use of agricultural conservation easements. The amount of HWT's and PG&E's contribution shall ensure the conservation of one acre of agricultural land in San Luis Obispo County for each acre of agricultural land converted by the Proposed Project or alternatives, based on the market price for the commensurate agricultural land at the time that the impacts occur.

Mitigation Measure AG-2: Restore Agricultural Land Temporarily Impacted by Construction Activities.

HWT or PG&E shall ensure that agricultural land temporarily impacted by construction activities is adequately restored following completion of construction to pre-project conditions. These include areas impacted from establishment of temporary staging and storage areas, installation of the underground fiber optic cable link, installation of the 230 kV interconnection structures, preparation and temporary use of pull sites and crossing guard structures, and preparation and use of helicopter landing zones. Restoration of sites will involve removing any rock or material imported to stabilize the site, replacement of topsoil, de-compacting any soil that has been compacted by heavy equipment, and re-planting of agricultural crops. The responsibility of performing these various tasks may be stipulated in an agreement between HWT, PG&E, and the landowner(s) completed for the Proposed Project or alternatives. If a landowner is better equipped or prefers to replant crops or perform other tasks themselves, then HWT and PG&E shall provide just compensation for this work.

Impact AG-2: Conflict with existing zoning for agricultural use or a Williamson Act contract – *Significant and Unavoidable*

As described in Section 4.2.3, the entire proposed Estrella Substation site and portions of the 70 kV power line route are within the County's Agriculture land use designation. Additionally, portions of the power line route would border or pass through the City's Agriculture and Residential Agriculture zoning districts. The Proposed Project components would not further the

fundamental purpose of these land use designations and zoning districts, which is to encourage and protect agricultural uses in these areas; however, transmission lines and public utility facilities are allowed uses in all City and County land use and zoning categories (see Section 4.11, "Land Use and Planning" for further discussion). Therefore, the Proposed Project would not conflict with existing zoning for agricultural use.

The entire substation site and portions of the 70 kV power line route would be located on land under Williamson Act contracts. As described in the Proponent's Environmental Assessment (PEA), based on the utility exemption in the Williamson Act, the approximately 20-acre substation parcel, including the approximately 15-acre substation site, would be created as a separate legal parcel and removed from the larger 98-acre Williamson Act contract (NEET West and PG&E 2017). The existing contract would be modified to reflect the remaining ~~83~~78-acre contracted area (Mora, pers. comm., 2021), with the provisions of the original contract continuing to apply in the same manner as before the creation of the separate substation parcel (NEET West and PG&E 2017).

The County of San Luis Obispo's Rules of Procedure to Implement the California Land Conservation Act of 1965 (i.e., Williamson Act) identify 20 to 40 acres as the minimum acreage for parcels or contiguous parcels of prime land[1] to qualify for an agricultural preserve (County of San Luis Obispo 2019). Therefore, the reduction of the current 98-acre Williamson Act parcel down to ~~83~~78 acres would not disqualify ~~the proposed 15-acre substation~~this parcel as an agricultural preserve according to the County of San Luis Obispo ~~County~~. However, placing the substation within the existing parcel under Williamson Act contract would conflict with that contract, including its underlying intent, which is to preserve agricultural land in agricultural use. Although **Mitigation Measure AG-1** and **Mitigation Measure AG-2** would be implemented, a significant impact would still occur. No feasible mitigation is available that could create new and equivalent farmland to replace the Williamson Act contract land, and thus, this impact would be significant and unavoidable.

While the substation would substantially conflict with the existing Williamson Act contract on the substation site, the small areas of permanent conversion of agricultural lands that would occur at the locations of new 70 kV power line poles would not substantially affect the status of the existing Williamson Act contract parcels. Electric facilities are identified under Government Code Section 51238 as a compatible use on lands under a Williamson Act contract. Therefore, the effects of the 70 kV power line would not be significant.

[1] The definition of prime land under the County of San Luis Obispo Rules of Procedure to Implement the California Land Conservation Act of 1965 (County of San Luis Obispo 2019) includes:

1. Lands with Natural Resources Conservation Service land capability rating of Class 1 or Class 2 (all land to qualify for these ratings must be irrigated)~~,~~; or
2. Other irrigated lands that have suitable soils, climate and water supply which sustain irrigated crops valued according to one of the following criteria:
    a. Land planted in crops which have produced an annual gross value of $1,000 or more per acre for three of the previous five years~~.~~; or
    b. Land planted in orchards, vineyards and other perennial crops that would produce an average annual gross value of $1,000 or more per acre if in full commercial bearing.

Overall, construction and operation of the Proposed Project components would conflict with a Williamson Act contract. Therefore, this impact would be **significant and unavoidable**.

Impact AG-3: Involve other changes in the existing environment that, because of their location or nature, could result in a conversion of Farmland to a nonagricultural use – *Less than Significant*

The Proposed Project would not involve any other changes that, because of their location or nature, could result a conversion of Farmland to a non-agricultural use. As noted above, Important Farmland has generally been on the decline in California (CDOC 2020b) (although some increases in certain Farmland categories have occurred in San Luis Obispo County in recent years [CDOC 2014]) and is continually subject to urbanization pressures. As such, often, with increasing urbanization and development, there is potential for loss of Farmland to non-agricultural uses. While the Proposed Project, with buildout of the reasonably foreseeable distribution components, would accommodate future growth in the Paso Robles area, potentially resulting in conversion of agricultural land to non-agricultural uses, it would not directly cause this growth. As discussed in Section 4.14, "Population and Housing," planners at the City of Paso Robles anticipate growth to occur in the area south of the airport and south of SR-46, irrespective of the Proposed Project, and which would generally follow the City of Paso Robles General Plan.

Based on the above analysis, this impact would be **less than significant.**

Reasonably Foreseeable Distribution Components and Ultimate Substation Buildout

The reasonably foreseeable distribution components, in particular the southern new distribution line segment, would pass through agricultural areas mapped as Unique Farmland and subject to an existing Williamson Act contract. However, this new distribution line segment would be installed along an existing dirt road through the agricultural property and the small-diameter, direct-embedded distribution poles would not reasonably result in substantial conversion of any of this Farmland. Likewise, the presence of the pole structures would not in any way conflict with zoning for agricultural use or the Williamson Act contract. The temporary impacts to agricultural uses during construction of the reasonably foreseeable distribution components (e.g., installation of individual distribution poles, stringing and pulling of the conductor, etc.) would be minimized through implementation of APM AG-1. The northern reasonably foreseeable new distribution line segment would be installed primarily within the median of SR-46 and would not substantially affect Important Farmland, zoning for agricultural uses, or Williamson Act contracts. Similarly, the additional 21/12 kV pad-mounted transformers would be installed along existing roads and would not affect any agricultural uses.

With respect to ultimate substation buildout, installation of additional transmission and distribution transformers and associated equipment within the 70 kV and 230 kV substations is assumed to not result in any additional permanent ground disturbance. However, construction of an additional 230 kV interconnection under the ultimate buildout scenario would involve some conversion of Farmland due to the footprints of the LSTs, although precise acreages are unknown at this time and impacts are speculative. Additionally, construction of additional distribution feeders and 70 kV lines from the Estrella Substation in the future could impact

Farmland, zoning for agricultural use, and Williamson Act lands, but these impacts are speculative at this time. Overall, impacts under significance criteria A and B would be **less than significant.**

As discussed above under Impact AG-3, the Proposed Project, reasonably foreseeable distribution components, and ultimate substation buildout would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the Proposed Project, reasonably foreseeable distribution components, and ultimate substation buildout would accommodate growth, the construction and operation of these facilities would not directly cause growth. Therefore, impacts under significance criterion E would be **less than significant.**

Alternatives

No Project Alternative

Under the No Project Alternative, no substation or 70 kV power line would be constructed. Therefore, no direct conversion of Important Farmland to non-agricultural use would occur and the Williamson Act parcel containing the proposed Estrella Substation site would remain unchanged from existing conditions. Overall, **no impact** would occur under significance criteria A, B, or E.

Alternative SS-1: Bonel Ranch Substation Site

The Alternative SS-1 site would be located on areas of Farmland of Local Importance, as well as Farmland of Local Potential, and is currently used to grow alfalfa. Placement of a substation in this location would result in permanent conversion of roughly 15 acres of these agricultural lands to non-agricultural uses. As part of the substation site preparation and grading, all of the existing crops in the substation footprint would be removed and the soil would be removed/graded to the construction specifications. Additionally, temporary impacts to agricultural lands adjacent to the substation site would occur due to establishment of staging areas and work areas, including tower work areas for installation of the 230 kV interconnection towers. While the substation would convert agricultural lands to non-agricultural uses, the Farmland of Local Importance and Farmland of Local Potential classifications are not considered significant under significance criterion A. Although this land is identified as important to the local agricultural economy, it is generally inferior to Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. As a result, the permanent conversion of roughly 15 acres of agricultural land that would occur under Alternative SS-1 would be less than significant. Additionally, implementation of APM AG-1 would reduce the temporary effects of construction on the ongoing agricultural uses on the remainder of the property. Therefore, impacts under significance criterion A would be **less than significant.**

The Alternative SS-1 site is designated for Agriculture by the County. Although the substation under Alternative SS-1 would not fulfill the fundamental intent of the County's Agriculture designation to promote agricultural uses, it would not conflict with this land use designation. As discussed under Impact AG-2, transmission lines and public utility facilities are allowed uses in all City and County land use and zoning categories. Therefore, Alternative SS-1 would not

conflict with existing zoning for agricultural use. The Bonel Ranch parcel is ~~not~~ under a Williamson Act contract; therefore, ~~there would be no potential to~~placement of the substation on this site would conflict with a Williamson Act contract. Although **Mitigation Measure AG-1** and **Mitigation Measure AG-2** would be implemented, a significant impact would still occur. As a result, impacts under significance criterion B would be ~~**less than significant**~~**significant and unavoidable.**

As discussed above under Impact AG-3, a new substation along with buildout of distribution components would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the substation and distribution components would accommodate the growth, they would not directly cause it. Therefore, impacts under significance criterion E would be **less than significant.**

Alternative PLR-1A: Estrella Route to Estrella Substation

The Alternative PLR-1A alignment would extend through areas of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Farmland of Local Potential, including agricultural areas dominated by vineyards. The 70 kV power line structures would primarily be installed along existing roads (e.g., Wellsona Road), as well as within the existing 500/230 kV transmission corridor, but individual pole foundations would still result in small areas of permanent agricultural land conversion to non-agricultural uses. Based on Geographic Information System (GIS) analysis, the Alternative PLR-1A 70 kV power line would permanently impact less than 0.5 acre of Prime Farmland, less than 1.5 acre of Farmland of Statewide Importance, and roughly 2.5 acres of Unique Farmland. Temporary impacts to agricultural lands would occur at the location of staging areas, pole work areas, pulling sites, etc. Alternative PLR-1A also could impact agricultural lands due to the need to establish permanent or temporary access roads to pole locations for conducting maintenance.

While permanent conversions of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland from Alternative PLR-1A would be both small in acreage and isolated at pole locations spaced hundreds of feet apart (and, therefore, unlikely to substantially affect operations in the remainder of affected fields); these conversions would still be considered significant. Implementation of **Mitigation Measure AG-1** would reduce the severity of these impacts, but not to a level that is less than significant. No other feasible mitigation is available to reduce this significant impact. Additionally, temporary impacts to Prime Farmland, Farmland of Statewide Importance, and Unique Farmland would be significant if agricultural uses/crops were not adequately restored following construction and/or if soil productivity were adversely affected over the long term (e.g., due to soil compaction). Implementation of APM AG-1 would reduce the severity of the temporary effects of construction on the agricultural uses along the Alternative PLR-1A alignment, and **Mitigation Measure AG-2** would reduce potential for adverse long-term construction-related impacts (see discussion under Impact AG-1). Due to the permanent conversion of Farmland, however, impacts under significance criterion A would be **significant and unavoidable.**

The Alternative PLR-1A alignment would primarily extend through the County's Agriculture land use designation, with a small portion in Residential Suburban. Within the City of Paso Robles, a small portion of the reconductoring segment for Alternative PLR-1A would be within the City's

Agriculture zoning district, with the remainder extending through Residential Single Family, Residential Duplex/Triplex, and Commercial-General Retail (the same as the Proposed Project 70 kV reconductoring segment). As discussed under Impact AG-2, transmission lines and public utility facilities are allowed uses in all City and County land use and zoning categories. Therefore, Alternative PLR-1A would not conflict with existing zoning for agricultural use. ~~Small p~~Portions of the Alternative PLR-1A alignment would cross through land under Williamson Act contracts (see Figure 4.2-2). However, as described in Impact AG-2, electric facilities are identified under Government Code Section 51238 as a compatible use on lands under a Williamson Act contract, and the individual poles would not substantially affect the Williamson Act contract lands. As a result, impacts under significance criterion B would be **less than significant.**

Alternative PLR-1A, when combined with the Estrella Substation and distribution components, would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the alternative, Estrella Substation, and distribution components would accommodate the growth, they would not directly cause it. Therefore, impacts under significance criterion E would be **less than significant.**

Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1

The Alternative PLR-1C alignment would extend through areas of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Farmland of Local Potential, including agricultural areas dominated by vineyards. The 70 kV power line structures would primarily be installed along existing roads (e.g., Wellsona Road), as well as within the existing 500/230 kV transmission corridor, but individual pole foundations would still result in small areas of permanent agricultural land conversion to non-agricultural uses. Based on GIS analysis, the Alternative PLR-1A 70 kV power line would permanently impact less than 0.25 acre of Prime Farmland, roughly 1 acre of Farmland of Statewide Importance, and less than 1 acre of Unique Farmland. Temporary impacts to agricultural lands would occur at the location of staging areas, pole work areas, pulling sites, etc. Alternative PLR-1C also could impact agricultural lands due to the need to establish permanent or temporary access roads to pole locations for conducting maintenance.

While permanent conversions of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland from Alternative PLR-1C would be of small acreage and occur at isolated pole locations spaced hundreds of feet apart (and therefore, unlikely to substantially affect operations in the remainder of affected fields); these conversions would still be considered significant. Implementation of **Mitigation Measure AG-1** would reduce the severity of these impacts, but not to a level that is less than significant. No other feasible mitigation is available to reduce this significant impact. Temporary impacts to Prime Farmland, Farmland of Statewide Importance, and Unique Farmland could be significant if agricultural uses/crops were not adequately restored following construction and/or if soil productivity were adversely affected over the long term (e.g., due to soil compaction). Implementation of APM AG-1 would reduce the severity of the temporary effects of construction on the agricultural uses along the Alternative PLR-1A alignment. Further, **Mitigation Measure AG-2** would be implemented, which would reduce potential for adverse long-term construction-related impacts (see discussion

under Impact AG-1). Due to the permanent conversion of Farmland, impacts under significance criterion A would be **significant and unavoidable.**

The Alternative PLR-1C alignment would primarily extend through the County's Agriculture land use designation, while the reconductoring segment would extend through the same City zoning districts as Alternative PLR-1A's reconductoring segment. As discussed under Impact AG-2, transmission lines and public utility facilities are allowed uses in all City and County land use and zoning categories. Therefore, Alternative PLR-1C would not conflict with existing zoning for agricultural use. ~~Small p~~Portions of the Alternative PLR-1C alignment (limited to the reconductoring segment) would cross through land under Williamson Act contracts (see Figure 4.2-2). However, as described in Impact AG-2, electric facilities are identified under Government Code Section 51238 as a compatible use on lands under a Williamson Act contract. Additionally, 70 kV power line poles already exist in these areas and replacement of existing poles under Alternative PLR-1C would not affect Williamson Act contract status. As a result, impacts under significance criterion B would be **less than significant.**

Alternative PLR-1C, when combined with Alternative SS-1 and distribution components, would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the alternative, the Alternative SS-1 substation, and distribution components would accommodate the growth, they would not directly cause it. Therefore, impacts under significance criterion E would be **less than significant.**

Alternative PLR-3: Strategic Undergrounding (Options 1 & 2)

The Alternative PLR-3 undergrounding route (both options) would not extend through any areas of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The routes would pass through some areas of Farmland of Local Importance, Farmland of Local Potential, and Grazing Land, but the 70 kV power line segment under Alternative PLR-3 would be almost entirely underground (other than the small transition stations on either end of the alignments) and would not permanently substantial agricultural land. Much of the lengths of both Alternative PLR-3 options would be installed within existing roads, which would have no effects on agricultural uses. Some temporary impacts to Farmland of Local Importance, Farmland of Local Potential, and Grazing Land would occur from trenching activities and from temporary work areas. Due to the fact that Prime Farmland, Farmland of Statewide Importance, and Unique Farmland would not be affected, this impact would not be significant. Additionally, implementation of APM AG-1 would reduce the severity of the temporary effects on agricultural uses along the Alternative PLR-3 alignments. Therefore, impacts under significance criterion A would be **less than significant.**

The Alternative PLR-3B Option 2 alignment would traverse a small area of the Agriculture zoning district. However, as discussed under Impact AG-2, transmission lines and public utility facilities are allowed uses in the Agriculture zoning district. Therefore, Alternative PLR-3 would not conflict with existing zoning for agricultural use. No portions of either Alternative PLR-3 option would cross parcels under a Williamson Act contracts. Therefore, impacts under significance criterion B would be **less than significant.**

Alternative PLR-3, when combined with the remainder of the Proposed Project and the reasonably foreseeable distribution components, would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the alternative, the remainder of the Proposed Project, and the reasonably foreseeable distribution components would accommodate the growth, they would not directly cause it. Therefore, impacts under significance criterion E would be **less than significant.**

Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation

The Alternative SE-1A site would be located on areas of Farmland of Local Importance, as well as Farmland of Local Potential. Placement of a substation in this location would result in permanent conversion of roughly 15 acres of these agricultural lands to non-agricultural uses. As part of the substation site preparation and grading, any existing crops in the substation footprint would be removed and the soil would be removed/graded to the construction specifications. Additionally, temporary impacts to agricultural lands adjacent to the substation site would occur due to establishment of staging areas and work areas, including tower work areas for installation of the 230 kV interconnection towers. While the substation would convert agricultural lands to non-agricultural uses, the Farmland of Local Importance and Farmland of Local Potential classifications are not considered significant under significance criterion A. Although this land is identified as important to the local agricultural economy, it is generally inferior to Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. As a result, the permanent conversion of roughly 15 acres of agricultural land that would occur under Alternative SE-1A would be less than significant. Additionally, implementation of APM AG-1 would reduce the temporary effects of construction on the ongoing agricultural uses on the remainder of the property. Therefore, impacts under significance criterion A would be **less than significant.**

The Alternative SE-1A site is designated for Agriculture by the County. Although the substation under Alternative SE-1A would not fulfill the fundamental intent of the County's Agriculture designation to promote agricultural uses, it would not conflict with this land use designation. As discussed under Impact AG-2, transmission lines and public utility facilities are allowed uses in all City and County land use and zoning categories. Therefore, Alternative SE-1A would not conflict with existing zoning for agricultural use. The Templeton Substation Expansion site parcel is not under a Williamson Act contract; therefore, there would be no potential to conflict with a Williamson Act contract. As a result, impacts under significance criterion B would be **less than significant.**

As discussed above under Impact AG-3, a new substation along with buildout of distribution components would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the substation and distribution components would accommodate the growth, they would not directly cause it. Therefore, impacts under significance criterion E would be **less than significant.**

Alternative SE-PLR-2: Templeton-Paso South River Road Route

The Alternative SE-PLR-2 alignment would extend through a small area of Farmland of Statewide Importance, as well as some areas of Farmland of Local Importance and Farmland of Local Potential. The majority of the 70 kV power line under Alternative SE-PLR-2 would extend through areas of Grazing Land, Other Land, and Urban and Built-Up Land, as shown in Figure 4.2-1. The 70 kV power line structures would primarily be installed along existing roads (e.g., South River Road), as well as within the existing 500/230 kV transmission corridor, but individual pole foundations would still result in small areas of permanent agricultural land conversion to non-agricultural uses. Based on GIS analysis, the Alternative SE-PLR-2 70 kV power line would permanently impact less than 0.3 acre of Farmland of Statewide Importance. Temporary impacts to agricultural lands would occur at the location of staging areas, pole work areas, pulling sites, etc.

While permanent conversions of Farmland of Statewide Importance from Alternative SE-PLR-2 would be of small acreage and occur at isolated pole locations spaced hundreds of feet apart (and therefore, unlikely to substantially affect operations in the remainder of affected fields); these conversions would still be considered significant. Implementation of **Mitigation Measure AG-1** would reduce the severity of these impacts, but not to a level that is less than significant. No other feasible mitigation is available to reduce this significant impact. Temporary impacts to Farmland of Statewide Importance could be significant if agricultural uses/crops were not adequately restored following construction and/or if soil productivity were adversely affected over the long term (e.g., due to soil compaction). However, implementation of APM AG-1 would reduce the severity of the temporary effects of construction on the agricultural uses along the Alternative PLR-1A alignment. Further, **Mitigation Measure AG-2** would be implemented to reduce potential adverse long-term construction-related impacts (see discussion under Impact AG-1). Due to the permanent conversion of Farmland, impacts under significance criterion A would be **significant and unavoidable.**

The Alternative SE-PLR-2 alignment would primarily extend through the County's Rural Residential and Agriculture land use designations, while the northern portion of the alignment would pass through areas of Paso Robles zoned Residential Single Family and Regional Commercial. As discussed under Impact AG-2, transmission lines and public utility facilities are allowed uses in all City and County land use and zoning categories. Therefore, Alternative SE-PLR-2 would not conflict with existing zoning for agricultural use. ~~No p~~Portions of the Alternative SE-PLR-2 alignment would cross through land under Williamson Act contracts (see Figure 4.2-2). However, as described in Impact AG-2, electric facilities are identified under Government Code Section 51238 as a compatible use on lands under a Williamson Act contract, and the individual poles would not substantially affect the Williamson Act contract lands. As a result, impacts under significance criterion B would be **less than significant.**

Alternative SE-PLR-2, when combined with Alternative SE-1A and distribution components, would accommodate anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the alternative, the Alternative SE-1A substation, and distribution components would accommodate the growth, they would not directly cause it. Therefore, impacts under significance criterion E would be **less than significant.**

Alternative BS-2: Battery Storage to Address Distribution Need

Of the example FTM sites identified for analysis in the DEIR, only FTM Site 5, 6, and 8 would be located on or adjacent to agricultural land. As shown in Figure 4.2-1, FTM Site 5 would be located on Farmland of Local Importance; FTM Site 6 would be located on Farmland of Local Importance and Farmland of Local Potential, and FTM Site 8 would include areas of Farmland of Local Potential. Placement of FTM battery energy storage systems (BESSs) in these example locations would result in permanent conversion of agricultural lands to non-agricultural uses. Because the sizes of individual FTM BESSs are not known at this time and would be based on future load growth in the Paso Robles area, the precise acreage of impacts is not known. The most impactful option would be a 50 megawatt/400 megawatt-hour flow battery at Templeton Substation (i.e., FTM Site 6), which would have a footprint of roughly 9.1 acres. Lithium-ion BESSs at example FTM Sites 5, 6, or 8 would result in substantially less conversion of agricultural land.

Temporary construction-related impacts to Farmland from FTM BESS construction could be significant if agricultural uses/crops within disturbance areas were not adequately restored following construction and/or if soil productivity were adversely affected over the long term (e.g., due to soil compaction). However, implementation of measures to restore temporarily impacted lands would reduce the severity of these effects.

Only the potential FTM Site 6 is on land designated for Agriculture by the County. Remaining example FTM sites are on lands designated/zoned Residential Single Family, Regional Commercial, Airport, Public Facility, and Residential Suburban. Other FTM sites identified or selected in the future could potentially be located on lands designated for agricultural uses in the City or County jurisdiction. As discussed under Impact AG-2, transmission lines and public utility facilities (which would include BESSs) are allowed uses in all City and County land use and zoning categories. Therefore, Alternative BS-2 would not be anticipated to conflict with existing zoning for agricultural use. None of the example FTM sites are under Williamson Act contracts.

The FTM BESSs would provide a similar function to the Proposed Project and reasonably foreseeable distribution components in accommodating anticipated future growth by providing additional electric distribution service capacity to the Paso Robles area. Given that urbanization is a major cause of ongoing losses of Important Farmland (CDOC 2020b), some of this future growth may result in conversion of Important Farmland to non-agricultural use. However, while the FTM BESSs would accommodate the growth, they would not directly cause it.

Overall, because FTM BESS sites were selected for illustrative purposes only, BESS installations have neither been designed nor technologies selected, and the specifics of Alternative BS-2 are unknown, project-level determinations cannot be made as impacts are speculative. Therefore, consistent with CEQA Guidelines Section 15145, no significance conclusion is provided for any of the significance criteria.

Alternative BS-3: Behind-the-Meter Solar and Battery Storage

The specific locations of development sites under Alternative BS-3 are unknown; however, individual BTM solar and battery storage facilities would likely be installed on or within existing buildings. In these situations, installation of BTM facilities would have no potential to impact agricultural lands. Even in situations where a commercial, industrial, or residential property

owner were to install new BTM facilities on previously undeveloped portions of their property, this would have little potential to result in significant conversion of Important Farmland to non-agricultural uses or conflicts with existing zoning for agricultural use or a Williamson Act contract. In most cases, BTM facilities would be relatively small and would not affect existing land uses. On a cumulative level, installation of multiple BTM facilities would reduce loading within the Paso Robles area and could thereby avoid conventional distribution system investments (e.g., new distribution feeders). In this respect, Alternative BS-3 would serve to reduce the need for future conversions of Farmland to nonagricultural uses.

Overall, due to the fact that specific locations and characteristics of BTM resources procured under Alternative BS-3 are unknown at this time, project-level impact determinations are not possible as the impacts are speculative. Therefore, consistent with CEQA Guidelines Section 15145, no significance conclusion is reached under any of the significance criteria.

Revised DEIR Section 4.3 – Air Quality

4.3 Air Quality

4.3.1 Overview

This section evaluates the proposed Estrella Substation and Paso Robles Area Reinforcement Project's (Proposed Project's) air quality impacts. The section first describes the air quality regulatory and environmental settings and then evaluates the project's air quality impacts. Regional and local laws and regulations are described in detail in Appendix A. The impact evaluation begins by describing the air quality significance criteria and the methodology used to evaluate significance, and then presents the impact evaluation. Mitigation measures are identified for impacts that are determined to be significant. The impacts analysis also considers the air quality emissions impacts associated with the reasonably foreseeable distribution components and alternatives.

Air quality is described for a specific location as the concentration of various pollutants in the atmosphere. Air quality conditions at a particular location are a function of the type and amount of air pollutants emitted into the atmosphere, the size and topography of the regional air basin, and the prevailing meteorological conditions.

4.3.2 Regulatory Setting

Federal Laws, Regulations, and Policies

Clean Air Act

The federal Clean Air Act (CAA) and the 1990 CAA Amendments govern air quality in the United States and are administered by U.S. Environmental Protection Agency (USEPA). The CAA authorizes USEPA to set limits on the concentrations in the air of certain air pollutants and grants it the authority to place limits on emission sources. USEPA implements a variety of programs under the CAA that focus on reducing ambient air concentrations of pollutants that cause smog, haze, acid rain, and serious health effects and on phasing out ozone-depleting chemicals.

National Ambient Air Quality Standards

As required by the CAA, USEPA has established National Ambient Air Quality Standards (NAAQS) for six major air pollutants. These pollutants, known as criteria air pollutants, are ozone (O_3); particulate matter (PM), specifically PM_{10} (PM with aerodynamic radius of 10 micrometers or less) and $PM_{2.5}$ (PM with aerodynamic radius of 2.5 micrometers or less); carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); and lead. California also has established ambient air quality standards, known as the California Ambient Air Quality Standards (CAAQS), which generally are more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. CAAQS are discussed in more detail below in "State Laws, Regulations, and Standards." The federal and state standards for criteria air pollutants are shown in Table 4.3-1.

A basic measure of air quality is whether an air basin is meeting the NAAQS and CAAQS. Areas that do not exceed these standards are designated as being in attainment; areas that exceed these standards are designated as nonattainment areas (NAAs), and areas for which insufficient data are available to make a determination are designated unclassified. As part of its enforcement responsibilities, USEPA requires each state with NAAs to prepare and submit a State Implementation Plan (SIP) that demonstrates the means by which it will attain the federal standards, and requires that a maintenance plan be prepared for each former NAA for which the state subsequently has demonstrated attainment of the standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs, within the time frame identified in the SIP.

Table 4.3-1. Attainment Status of the State and Federal Ambient Air Quality Standards

Contaminant	Averaging Time	Concentration	State Standards Attainment Status[1]	Federal Standards Attainment Status[2]
Ozone	1-hour	0.09 ppm	N	A (see footnote 3)
	8-hour	0.070 ppm	N	A
Carbon Monoxide	1-hour	20 ppm	A	
		35 ppm		U
	8-hour	9.0 ppm	A	U
Nitrogen Dioxide	1-hour	0.18 ppm	A	
		0.100 ppm[5]		U
	Annual arithmetic mean	0.030 ppm	A	
		0.053 ppm		U
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	A	
		0.075 ppm		U
	24-hour	0.04 ppm	A	
		0.14 ppm		U
	Annual arithmetic mean	0.030 ppm		U
Particulate Matter (PM_{10})	24-hour	50 µg/m^3	N	
		150 µg/m^3		U/A
	Annual arithmetic mean	20 µg/m^3	N	
Fine Particulate Matter ($PM_{2.5}$)	24-hour	35 µg/m^3		U/A
	Annual arithmetic mean	12 µg/m^3	A	U/A

Contaminant	Averaging Time	Concentration	State Standards Attainment Status[1]	Federal Standards Attainment Status[2]
Sulfates	24-hour	25 µg/m^3	A	
Lead[6]	30-day average	1.5 µg/m^3	A	
	3-months rolling	0.15 µg/m^3		No Attainment Info
Hydrogen Sulfide	1-hour	0.03 ppm	A	
Vinyl Chloride[6] (chloroethene)	24-hour	0.010 ppm	No Attainment Info	
Visibility Reducing Particles	8-hour (10:00 to 18:00 PST)	See footnote 4	A	

A – attainment
N – non-attainment
U – unclassified

µg/m^3 – micrograms per cubic meter
PST – pacific standard time
ppm – parts per million

Notes:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements that are excluded include those that the California Air Resources Board (CARB) determines would occur less than once per year on average.
2. National standards shown are the "primary standards" designed to protect public health. National air quality standards are set by USEPA at levels determined to be protective of public health with an adequate margin of safety. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 parts per billion) or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met by spatially averaging annual averages across officially designated clusters of sites and then determining if the 3-year average of these annual averages falls below the standard.
3. The national 1-hour ozone standard was revoked by USEPA on June 15, 2005. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 ppm to 0.070 ppm. An area meets the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. This table provides the attainment statuses for the 2015 standard of 0.070 ppm. Eastern San Luis Obispo County is in federal non-attainment for ozone while the Western part of the County is in attainment.

4. Statewide Visibility-Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per km when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment resulting from regional haze and is equivalent to a 10-mile nominal visual range.
5. To attain this standard, the 3-year average of the ninety-eighth percentile of the daily maximum 1-hour average at each monitoring station within an area must not exceed 0.100 ppm (effective January 22, 2010).
6. CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined.

Sources: CARB 2019a, USEPA 2019, San Luis Obispo County Air Pollution Control District (SLOCAPCD) 2019

National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants, contained in two parts (Part 61 and 63) of Title 40 of the Code of Federal Regulations (CFR), regulate major sources of hazardous air pollutants (HAPs). HAPs include asbestos, beryllium, mercury, vinyl chloride, benzene, arsenic, radon/radionuclides, and various types of pesticides, herbicides, and other chemicals. A "major source" is defined as a source having the potential to emit 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs.

On-Road Vehicle Regulations

In 2016, the USEPA and the National Highway Traffic Safety Administration (NHTSA) adopted Phase 2 fuel efficiency standards for medium- and heavy-duty trucks for model years 2018 and beyond (USEPA 2016). This phase was intended to include technology-advancing standards that would substantially reduce greenhouse gas (GHG) emissions and fuel consumption, resulting in an ambitious, yet achievable, program that will allow manufacturers to meet the applicable standards over time, at reasonable cost, through a mix of different technologies. For semi-trucks, large pickup trucks, vans, and other trucks, Phase 2 standards will be phased in beginning with model year 2021 and culminating with model year 2027. While this regulation focuses on the reduction of GHG emissions, it is anticipated that this regulation would also help reduce criteria air pollutants.

On September 27, 2019, the USEPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One. The SAFE rule (Part One) went into effect in November 2019, and revoked California's authority to set its own GHG standards and set Zero Emission Vehicle (ZEV) mandates in California. The SAFE rule freezes new ZEV sales at model year 2020 levels for year 2021 and beyond and will likely result in a lower number of future ZEVs and a correspondingly greater number of future gasoline internal combustion engine vehicles.

Non-road Emission Regulations

USEPA has adopted emission standards for different types of non-road engines, equipment, and vehicles. The Tier 4 (currently in effect) standards require that emissions of PM and nitrogen oxides (NO_X) from non-road diesel engines are reduced compared to previous engines. Such emission reductions can be achieved through the use of control technologies, including advanced exhaust gas after-treatment.

Aircraft Emission Regulations

Aircraft Emissions are regulated by the USEPA under the CAA Title II Part B Aircraft Emission Standards and CFR Title 42 Chapter 85, Subchapter II Part B Aircraft Emission Standards. The USEPA has implemented the sampling, measurement and analytical determination of compliance from the International Civil Aviation Organization (ICAO) International Standards and Recommendation Practices, Annex 16 to the Convention on International Civil Aviation, Environmental Protection, Volume II, Aircraft Emissions The requirements are developed by the Federal Aviation Administration (FAA) in association with the USEPA are issued in Title 14 CFR Part 32 , Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes.

State Laws, Regulations, and Policies

California Ambient Air Quality Standards and the California Clean Air Act

The State of California initiated its own air quality standards, the CAAQS, in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are goals for air quality within the state, which generally are more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, CAAQS also regulate sulfates, H_2S, vinyl chloride, and visibility-reducing particles. These standards are listed in Table 3.2 1.

The California Clean Air Act (CCAA), enacted in 1988, provides a comprehensive framework for air quality planning. The CCAA requires NAAs to achieve and maintain the health-based CAAQS by the earliest practicable date. The CCAA requires NAAs in the state to prepare attainment plans, which are required to achieve a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. All air basins in California are either unclassified or in attainment of the NAAQS and CAAQS for CO, SO_2, and NO_2. Some air basins are classified as NAAs for the NAAQS and CAAQS for O_3, PM_{10}, and $PM_{2.5}$.

The California Air Resources Board (CARB) is responsible for ensuring implementation of the CCAA, meeting state requirements for the federal CAA, and establishing the CAAQS. CARB oversees activities of local air districts and is responsible for incorporating air quality management plans for local air basins into a SIP for USEPA approval. It also is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications (see discussion of CARB rules below).

California Air Resources Board Rules, Regulations, and Programs

As noted above, CARB has established a number of rules and regulations for the purpose of meeting the standards in the federal and state CAAs. The relevant CARB rules, regulations, and programs are discussed briefly below.

Commercial Vehicle Idling Regulation

CARB adopted an Airborne Toxic Control Measure (ATCM) to limit idling of diesel-fueled commercial motor vehicles. This regulation requires heavy-duty diesel engines of model years 2008 and newer to be equipped with a non-programmable system that automatically shuts

down the engine after 5 minutes of idling or, optionally, meets a stringent NO_X idling emission standard (CARB 2019b).

Diesel Fuel Program

CARB established regulations which require that diesel fuel with sulfur content of 15 parts per million (ppm) or less (by weight) be used for all diesel-fueled vehicles that are operated in California. The standard also applies to non-vehicular diesel fuel, other than diesel fuel used solely in locomotives or marine vessels. The regulations also contain standards for the aromatic hydrocarbon content and lubricity of diesel fuels.

In-use Off-road Diesel Vehicle Regulation

CARB adopted a regulation to reduce diesel PM and NO_X emissions from in-use, off-road, heavy-duty diesel vehicles in California. The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust retrofits to older engines. Personal-use vehicles and vehicles used solely for agriculture are exempt from this regulation (CARB 2016).

Portable Engine Airborne Toxic Control Measure

The Portable Engine ATCM is designed to reduce the PM emissions from portable diesel-fueled engines rated at 50 brake horsepower or larger. Based on their cumulative horsepower, fleets must follow a phase-out schedule or meet fleet-average emission rates.

Portable Equipment Registration Program

The statewide Portable Equipment Registration Program (PERP) establishes a system to uniformly regulate portable engines and portable engine–driven equipment units. After being registered in this program, engines and equipment units may operate throughout the state without the need to obtain separate permits from individual air districts. Owners or operators of portable engines and certain types of equipment can voluntarily register their units to operate their equipment anywhere in the state, although the owners and operators may still be subject to certain district requirements for reporting and notification. Engines with less than 50 brake horsepower are exempt from this program.

California Toxic Air Contaminant Act

The California Toxic Air Contaminant Act created the statutory framework for the evaluation and control of chemicals as toxic air contaminants (TACs). A 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 (California Health and Safety Code Section 39655).” California Department of Pesticide Regulation (CDPR) is responsible for evaluating chemicals, including pesticides, to determine whether the chemical should be listed as a TAC. Once a chemical is listed as a TAC, CDPR investigates the need for, and appropriate degree of, control for the TAC, including potential measures to reduce emissions to levels that adequately protect public health.

Assembly Bill 203 Occupation Safety and Health: Valley Fever

Enacted in 2019, Assembly Bill 203 modified section 6709 of the California Labor Code to require construction employers in counties where Valley Fever is highly endemic (>20 cases per 100,000 people per year) to provide training to all employees by May 1, 2020 and annually thereafter. San Luis Obispo County (County) is considered a highly endemic area. Training Requirements shall require review of the following:

- What Valley Fever is and how it is contracted;
- Areas, environmental conditions, and types of work that pose high risk of contracting Valley Fever;
- Personal factors that put employees at higher risk of infection or disease development, including pregnancy, diabetes, having a compromised immune system due to conditions such as human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS), having received an organ transplant, or taking immunosuppressant drugs such as corticosteroids or tumor necrosis factor inhibitors;
- Personal and environmental exposure prevention methods such as water-based dust suppression, good hygiene practices when skin and clothing is soiled by dust, avoiding contamination of drinks and food, working upwind from dusty areas when feasible, wet cleaning dusty equipment when feasible, and wearing a respirator when exposure to dust cannot be avoided;
- The importance of early detection, diagnosis, and treatment to prevent the disease from progressing; because the effectiveness of medication is greatest in the early stages of the disease;
- Recognizing common signs and symptoms of Valley Fever, including cough, fatigue, fever, headache, joint pain or muscle aches, rash on upper body or legs, shortness of breath, and symptoms similar to influenza that linger longer than usual;
- The importance of reporting symptoms to the employer and seeking prompt medical attention from a physician for appropriate diagnosis and treatment; *and*
- Prognosis and common treatment for Valley Fever.

California Department of Industrial Relations, Division of Occupational Safety and Health Regulations Applicable to Valley Fever

Since the San Luis Obispo County has a high incidence of Valley Fever, construction contractors are required to comply with the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) recommendations and regulations:

- Employers have a legal responsibility to immediately report to Cal/OSHA any serious injury or illness, or death (including any due to Valley Fever) of an employee occurring in a place of employment or in connection with any employment. Employers also have responsibilities to control workers' exposure to hazardous materials.

- Applicable regulations with regard to Valley Fever protection and exposure can be found in the California Code of Regulations (CCR), Title 8, sections:

  - 342 (reporting Work-Connected Fatalities and Serious Injuries),
  - 3203 (Injury and Illness Prevention),
  - 5141 (Control of Harmful Exposures),
  - 5144 (Respiratory Protection), and
  - 1433 (Employer Records-Log 300).

4.3.3 Environmental Setting

Criteria Air Pollutants

Ozone

O_3 is formed by photochemical reactions between NO_X and reactive organic gases (ROGs) in the presence of sunlight rather than being directly emitted. O_3 is a pungent, colorless gas that is a component of smog. Elevated O_3 concentrations can result in reduced lung function, particularly during vigorous physical activity. This health problem can be particularly acute in sensitive receptors such as the sick, seniors, and children. O_3 levels peak during the summer and early fall months.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairment to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

Nitrogen Oxides

NO_X contribute to other pollution problems, including a high concentration of fine PM, poor visibility, and acid deposition. NO_2, a reddish-brown gas, and nitric oxide, a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to collectively as NO_X. NO_X is a primary component of the photochemical smog reaction. NO_2 can decrease lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in California. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine PM, and reduces visibility and the level of sunlight.

Reactive Organic Gases

ROGs are formed from combustion of fuels and evaporation of organic solvents. ROGs are the fraction of volatile organic compounds (VOCs) that are a prime component of the photochemical smog reaction. Individual ROGs can be TACs.

Particulate Matter

PM is the term used for a mixture of solid particles and liquid droplets suspended in the air. PM ranges from particles that can be seen with the naked eye, such as dust or soot, to particles that can only be seen with an electron microscope. Respirable PM of 10 microns in diameter or less is called PM_{10}. Fine particulate matter is a subgroup known as $PM_{2.5}$ and is defined as particles with a diameter of 2.5 microns or less.

PM can be emitted directly from primary sources or formed secondarily from reactions in the atmosphere. Primary sources include windblown dust, grinding operations, smokestacks, and fires. Secondary formation of PM occurs from reactions of gaseous precursors within the atmosphere, such as the formation of nitrates from NO_X emissions from combustion activities.

PM can accumulate in the respiratory system and aggravate health problems. These health effects include cardiovascular symptoms; cardiac arrhythmias; heart attacks; respiratory symptoms; asthma attacks; bronchitis; alterations in lung tissue, lung structure, and respiratory tract defense mechanisms; and premature death in people with heart or lung disease. Those at particular risk of increased health decline from exposure to PM include people with preexisting heart or lung disease, children, and seniors.

Lead

Lead is a metal that can be found naturally in the environment and also is released from metal production processes and manufactured products. In the past, motor vehicles were the major contributor of lead emissions to the air. However, because of increased regulations, air emissions of lead from vehicles have declined. The major sources of lead emissions to the air today are ore and metal processing and piston-engine aircraft operating on leaded aviation gasoline. Lead can accumulate in the bones and adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood.

Toxic Air Contaminants

TACs are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. The Health and Safety Code defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Individual TACs vary greatly in

the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another's. There are almost 200 compounds designated in California regulations as TACs (Title 17, ~~California Code of Regulations [~~CCR~~]~~, Sections 93000-93001). The list of TACs also includes the substances defined in federal statute as hazardous air pollutants pursuant to Section 112(b) of the federal CAA (Title 42, U.S. Code, Section 7412[b]). Some of the TACs are groups of compounds which contain many individual substances (e.g., copper compounds, polycyclic aromatic compounds). TACs are emitted from mobile sources, including diesel engines; industrial processes and stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations, and stationary fossil fuel-burning combustion.

Ambient TAC concentrations tend to be highest in urbanized and industrial areas near major TAC emission sources or near major mobile TAC emission sources, such as heavily traveled highways or major airports/seaports. Unlike for criteria pollutants, regular monitoring and reporting of all ambient TACs concentrations, such as diesel particulate matter (DPM) concentrations, is not performed in San Luis Obispo County. Generally, TACs do not have ambient air quality standards. The three TACs that do have State ambient air quality standards (lead, vinyl chloride, and hydrogen sulfide) are in attainment in San Luis Obispo County or have no attainment information available, and are not relevant to the air pollutant emission sources for this project.

Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever varies with the season and most commonly affects people who live in hot dry areas with alkaline soil. This disease affects both humans and animals, and is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-disturbing activities and become airborne. Agricultural workers, construction workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever (CDPH ~~2013~~2021).

Most people exposed to the CI spores will not develop the disease. Of 100 persons who are infected with Valley Fever, approximately 40 will exhibit some symptoms and two to four will have the more serious disseminated forms of the disease. After recovery, nearly all, including the asymptomatic, develop a life-long immunity to the disease (Guevara 2014). African-Americans, Asians, women in the 3rd trimester of pregnancy, and persons whose immunity is compromised are most likely to develop the most severe form of the disease (U.S Centers for Disease Control [CDC] 2013). In addition to humans, a total of 70 different animal species are known to be susceptible to Valley Fever infections, including dogs, cats, and horses; with dogs being the most susceptible (Los Angeles County Public Health [LACPH] 2007).

The Project is located in an area designated as "suspected endemic" for Valley Fever. More cases occur in the north and east parts of the county, where conditions are often dustier and

windier. Annual case reports for 2011 through 2018 from the CDPH indicate that San Luis Obispo County has reported incident rates for Valley Fever that range from a rate of 9.8 to 155.8 cases per year per 100,000 population (CDPH 2018). These incidence rates for San Luis Obispo County are among one of the highest rates in the state during the time period. Given the fact that fugitive dust-causing activities associated with the Project would occur, the potential for the Project construction activities to encounter and disperse CI spores and create the potential for additional Valley Fever infections is high. Mitigation measures that reduce fugitive dust will also reduce the chances of dispersing CI spores.

Regional Setting

The South Central Coast comprises all of San Luis Obispo, Santa Barbara, and Ventura counties. Overall, the region covers 7,887 square miles and is home to approximately 4% of California's population. The region is bounded by the Pacific Ocean on the west and south, and it includes six of the eight Channel Islands. All three counties comprise a relatively narrow coastal strip that gives way to inland mountains, with the highest elevations ranging from 6,000 to over 8,000 feet. San Luis Obispo County, the northernmost county, covers 3,304 square miles. The County is more rural and agricultural than many of California's other coastal regions, with a number of small communities scattered along the beaches, coastal hills, and mountains.

Meteorology and Climate

In terms of climate, the South Central Coast generally has relatively wet winters and warm dry summers. Coastal areas benefit from the marine influence, where onshore breezes keep beach communities cooler in summer and warmer in winter than communities located further inland. Year-round temperatures near the coast are mild, with average minimums in the 40s and 50s and average maximums in the 60s and low 70s. Average precipitation in this part of the region is between about 15 and 25 inches per year. In contrast, the inland areas are warmer and drier. In these areas, average minimum temperatures are still in the 40s and 50s. However, average maximums can be in the high 70s, and daily summer maximums can exceed 100 degrees Fahrenheit. Rainfall totals in the inland portions of the South Central Coast are generally less than 15 inches per year (CARB 2011).

The Proposed Project would involve work in Paso Robles and in surrounding rural areas of San Luis Obispo County. The locations of project alternatives vary; however, all are located within San Luis Obispo County. As shown in Table 4.3-1, the Proposed Project and all project alternatives are located in an area that is in nonattainment of state standards for ozone and PM_{10}.

Sensitive Receptors

Sensitive receptors are those segments of the population that are most susceptible to the effects of poor air quality, such as children, the elderly, and individuals with preexisting health problems (e.g., asthma) (CARB 2005). Examples of locations that may contain sensitive receptors include residences, senior living complexes, schools, parks, daycare centers, nursing homes, and medical facilities. Sensitive receptors in the project vicinity include residences near the substation site and along the reconductoring and new 70 kilovolt (kV) powerline segments. Land uses within and around the proposed Estrella Substation site are mostly agricultural (i.e., vineyards). Land uses within and along the proposed 70 kV power line route include agricultural

and residential, as well as industrial (Golden Hill Industrial Park) and public open space and recreation (e.g., Barney Schwartz Park, Cava Robles RV Resort).

In general, the reasonably foreseeable distribution components and many of the alternatives pass through similar or more rural areas. The southern reasonably foreseeable new distribution line segment would follow an existing road through agricultural fields north of the Estrella Substation site, while the northern reasonably foreseeable new distribution line segment would follow the SR 46 right-of-way. The additional 21/12 kV pad-mounted transformers would be installed along existing roads in relatively rural areas of San Luis Obispo County. Both of the alternative substation sites (Alternative SS-1 and SE-1A) are located in rural parts of the County on parcels currently being used for agricultural purposes. Alternatives PLR-1A and PLR-1C would both route the 70 kV power line through rural and agricultural areas east and north of Paso Robles. Alternative SE-PLR-2 would connect the substation under Alternative SE-1A to Paso Robles Substation and would pass through agricultural, rural residential, and urban areas. Several of the example front-of-the-meter (FTM) battery storage sites under Alternative BS-2 would be located in residential and commercial areas of Paso Robles (i.e., example FTM Sites 1-4), while the remaining sites would be located in more rural areas adjacent to the CAL FIRE Air Attack Base (FTM Site 5) and area substations (FTM Sites 6-8) (note: example FTM Site 7 is located within the City of Atascadero and is close to an existing church).

Existing Air Quality

Existing air quality in the central coast region is impaired for certain constituents, as much of the central coast region is currently in nonattainment for state ozone and PM_{10} standards. Smaller portions of the region are also in nonattainment for federal ozone and PM standards. Table 4.3-1 shows attainment status for criteria pollutants for counties within the central coast region. Table 4.3-2 shows ambient air quality monitoring data for air basins in the region.

Table 4.3-2. Ambient Air Quality Monitoring Data

Monitoring Station	Pollutant Standard		2018		2017		2016	
			No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration
San Luis Obispo County – Paso Robles-Santa Fe Avenue	$PM_{2.5}$	24-hour	-	-	-	-	-	-
	PM_{10}	24-hour	27	85.5 µg/m^3	-	57.0 µg/m^3	0	44.8 µg/m^3
	O_3	8-hour	2	0.072 ppm	2	0.075 ppm	0	0.067 ppm
		1-hour	0	0.087 ppm	0	0.083 ppm	0	0.091 ppm

Monitoring Station	Pollutant Standard		2018		2017		2016	
			No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration
San Luis Obispo County – Atascadero-Lift Station #5	$PM_{2.5}$	24-hour	0	34.1 µg/m^3	0	26.7 µg/m^3	0	28.6 µg/m^3
	PM_{10}	24-hour	5	55.4 µg/m^3	-	67.5 µg/m^3	-	56.3 µg/m^3
	O_3	8-hour	0	0.079 ppm	1	0.072 ppm	0	0.066 ppm
		1-hour	0	0.069 ppm	0	0.077 ppm	0	0.084 ppm
	NO_2	1-hour	-	0.038 ppm	-	0.039 ppm	-	0.034 ppm
		24-hour	-	0.018 ppm	-	0.019 ppm	-	0.013 ppm

Notes: NO_2 = nitrogen dioxide; O_3 = ozone; ppm = parts per million; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter of aerodynamic radius of 2.5 microns or less; PM_{10} = particulate matter of aerodynamic radius of 10 microns or less; - = insufficient or no data available to determine the value. $PM_{2.5}$ values are for NAAQS, PM_{10} and O_3 are for CAAQS.

Source: ~~California Air Resources Board (CARB)~~ 2020a, 2020b.

Existing sources of air pollution and odor in the central coast region include heavy duty trucks, passenger vehicles, farm equipment, off-road equipment, food processing plants, vineyards and wineries, industrial facilities, waste management facilities, airports, marine vessels, military facilities, power plants, and agricultural operations. Potential sources of odors in the project vicinity include agricultural operations and the Paso Robles Wastewater Treatment Plant.

4.3.4 Impact Analysis

Methodology

The assessment of environmental impacts and determination of necessary mitigation measures has been completed independently based on a critical analysis of the information provided by the Applicants (Pacific Gas & Electric Company and Horizon West Transmission collectively) in their Proponent's Environmental Assessment (PEA) and subsequent supporting documentation, including but not limited to data responses and PEA appendices. In addition, the assessment of environmental impacts is first based on the information in Chapter 2, *Project Description*, of this environmental impact report (EIR). If additional detailed information was required, those assumptions were generally based on the PEA appendices and other supporting documentation.

Construction emissions were estimated using the California Emission Estimator Model (CalEEMod) version 2016.3.2. CalEEMod is an emissions model that estimates criteria air pollutant emissions for land use development projects. It contains reasonable default assumptions that can be replaced if site-specific information is available. CalEEMod incorporates both CARB's EMission FACtors (EMFAC) for vehicles and current off-road in-use engine emissions model for construction equipment. Potential overlap in construction phases was considered if it was relevant to making a specific significance determination. Since construction was modeled for work to start in 2021 and changes would be less than 1 percent, no adjustments were made for the recently adopted SAFE Vehicles Rule, which is a joint NHTSA and USEPA rule. Operational emissions from maintenance and inspection is anticipated to be

minimal as the substations and power lines will be controlled remotely. Maintenance and inspections will happen less than once a month. Therefore, CalEEMod was not used to estimate any operational criteria air pollutant emissions. Detailed assumptions that informed the modeling and the modeling results are included in Appendix C.

Helicopter emissions were estimated following the FAA recommended methods consistent with their Aviation Environmental Design Tool (AEDT version 3c). AEDT uses a helicopter's engine specific fuel flow rate that corresponds to the ICAO "climbout" mode corresponding to 85 percent maximum power instead of time in the four landing take off (LTO) modes: take-off, climb out, approach and taxi. This is a change from previous FAA models used (e.g. Emissions and Dispersion Modeling System [EDMS]) which previously used all four LTO modes. The default time for the whole LTO sequence modeled as 100 percent in climb out mode is 887 seconds or 14.8 minutes (FAA 2016). Since the specific helicopter model is not available at this time, a Sikorsky S92A helicopter was used as a surrogate to represent a typical helicopter type used in utility construction projects and emission factors are readily available for this engine model. The helicopter emissions are determined by multiplying the fuel consumption with the emissions factors which are in terms of pounds of pollutant emitted per pound of fuel consumed. The helicopter was assumed to operate for 132 days with up to 10-hour days and it was assumed to have up to 20 LTOs per day. Fugitive dust emissions associated with helicopters primarily occurs during the LTO cycle. It is assumed that 1.5 kilograms are emitted as fugitive dust for each LTO cycle (Gillies et al 2007). Detailed helicopter emission calculations are available in Appendix C.

Criteria for Determining Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines and Air District guidance, a significant impact would occur with respect to air quality if the Proposed Project, reasonably foreseeable distribution components, or alternatives 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 air pollutant concentrations.

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

Air District Thresholds

The San Luis Obispo County Air Pollution Control District (SLOCAPCD) has established thresholds of significance for construction and operational emissions which serve as a surrogate for determining if a project would result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state Ambient Air Quality Standard (AAQS) (SLOCAPCD 2017). If a project is below the significance threshold, then it does not result in a cumulatively considerable increase. If the project is above the significance thresholds than it would result in a cumulatively considerable impact. Mitigation of construction activities is required when emissions thresholds are equaled or exceeded.

Table 4.3-3 and Table 4.3-4 below contain the District's thresholds of significance for emissions from construction and operations, respectively.

Table 4.3-3. Thresholds of Significance for Construction Operations

Pollutant	Threshold		
	Daily	Quarterly Tier 1	Quarterly Tier 2
ROG + NOx (Combined)	137 lbs	2.5 tons	6.3 tons
Diesel Particulate Matter (DPM)	7 lbs	0.13 tons	0.32 tons
Fugitive Particulate Matter (PM_{10}), Dust[1]		2.5 tons	

Notes: DPM = diesel particulate matter; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases.

[1] Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5-ton PM_{10} quarterly threshold.

Depending on if construction emissions are exceeding the daily, quarterly Tier 1 or Tier 2, different levels of mitigation measures are required. Implementation of mitigation measures required for the daily or quarterly Tier 1 would reduce impacts to less than significant. The specific thresholds and their corresponding mitigation measures are detailed below.

ROG and NO_X Emissions

Daily: For construction projects exceeding the 137 lbs/day threshold requires Standard Mitigation Measures;

Quarterly – Tier 1: For construction projects exceedance of the 2.5 ton/quarter threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment.

Quarterly – Tier 2: For construction projects exceeding the 6.3 ton/qtr threshold, Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP) and off-site mitigation are required.

DPM Emissions

Daily: For construction projects expected to be completed in less than one quarter, if emissions would exceed seven pounds per day, Standard Mitigation Measures are required.

Quarterly – Tier 1: For construction projects lasting more than one quarter, if emissions would exceed 0.13 tons per quarter, Standard Mitigation Measures and BACT for construction equipment are required.

Quarterly – Tier 2: For construction projects lasting more than one quarter, if emissions would exceed 0.32 ton per quarter, Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation are required.

Fugitive Particulate Matter Dust Emissions

Quarterly: Construction projects with emissions that would exceed 2.5 tons per quarter require Standard Fugitive PM_{10} Mitigation Measures and may require the implementation of a CAMP.

Table 4.3-4. Thresholds of Significance for Operational Emissions Impacts

Pollutant	Threshold	
	Daily	**Annual**
Ozone Precursors (ROG + NO_X)	25 lbs/day	25 tons/year
Diesel Particulate Matter (DPM)	1.25 lbs/day	
Fugitive Particulate Matter (PM_{10}), Dust	25 lbs/day	25 tons/year
CO	550 lbs/day	

Notes: CO = carbon monoxide; DPM = diesel particulate matter; lbs = pounds; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases.

Environmental Impacts

Proposed Project

Impact AQ-1: Potential to conflict with or obstruct implementation of the SLOCAPCD air quality plan – *Less than Significant*

The Proposed Project would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable state and federal air quality regulations. The area is in non-attainment for ozone and PM_{10}. The SLOCAPCD plans for these pollutants do not call for any additional future emission reduction regulations that would affect the Project's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources as well as occasional off-road and on-road vehicles for maintenance and operation that are not regulated by SLOCAPCD. The Proposed Project also would not conflict with any County or Paso Robles General Plan air quality goals or policies. Thus, impacts would be **less than significant**.

Impact AQ-2: Potential to violate ROG, NO_X, and PM_{10} significance thresholds and contribute substantially to an existing or projected air quality violation - *Significant and Unavoidable*

Construction

Construction of the Proposed Project would generate temporary emissions of air pollutants. Ozone precursors (NO_X and ROG) as well as PM_{10} and $PM_{2.5}$ would be emitted by the operation of construction equipment and the helicopters. The construction equipment will also emit DPM which is a subcomponent of particulate matter from diesel fueled equipment. Note that the helicopters that would be used for the Proposed Project do not emit DPM, as they use jet fuel. Fugitive dust (PM_{10} and $PM_{2.5}$) would be emitted by activities that disturb the soil, such as

demolition, grading and excavation, road construction, and building construction. The helicopters would also generate fugitive dust during their landings and takeoffs or hovering near the ground. The Project's estimated maximum daily and quarterly emissions are shown in Table 4.3-5. ~~Modeling of construction emissions assumed the Proposed Project's current schedule.~~ Changes to ~~any of~~ the timing of the individual project phases may increase or decrease the emissions depending on how construction phases overlap. The construction emissions were estimated as described above using CalEEMod and other models for the helicopter emissions. The unmitigated scenario shown in Table 4.3-5a below assumes the CARB default fleet mix of construction equipment provided in CalEEMod for this construction start year. The mitigated scenario shown in Table 4.3-5b below assumes that all diesel fueled construction equipment would meet Tier 4 final emission standards.

Table 4.3-5a. Construction Emissions-Unmitigated

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Maximum Daily Emissions (lbs/day)									
CalEEMod Sources	78.13	12.52	141.38	153.90	0.29	10.40	14.25	8.26	4.36
Helicopter	23.99	19.92	101.64	121.56	9.37	66.14	68.94	68.94	-
Total Maximum Daily	102.12	32.44	243.02	275.46	9.65	76.54	83.19	77.20	4.36
Significance Thresholds	-	-	-	137	-	-	-	-	7
Significant?	-	-	-	Yes	-	-	-	-	No
Maximum Quarterly Emissions (tons/quarter)									
CalEEMod Sources	-	-	-	3.78	-	0.06	-	-	0.12
Helicopter	-	0.9	4.57	5.47	-	2.98	-	-	-
Total Maximum Quarterly	-	-	-	9.25	-	3.04	-	-	0.12
Significance Thresholds	-	-	-	Tier 1 2.5 Tier 26.3	-	2.5	-	-	0.13
Significant?	-	-	-	Yes, Tier 2	-	Yes	-	-	No

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Total Project Emissions (tons)									
CalEEMod Sources	6.75	1.05	10.20	11.25	0.02	0.30	0.67	0.43	0.37
Helicopter	1.58	1.31	6.71	8.02	0.62	4.37	4.55	4.55	-
Total Construction Project	8.33	2.36	16.91	19.27	0.64	4.67	5.22	4.98	0.37

Notes: CalEEMod = California Emission Estimator Model; CO = carbon monoxide; DPM = diesel particulate matter; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter with aerodynamic radius of 2.5 micrometers or less; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases; SO_X = sulfur oxides.

Table 4.3-5b. Construction Emissions-Mitigated

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Maximum Daily Emissions (lbs/day)									
CalEEMod Sources	113.04	3.92	47.84	51.76	0.29	6.40	6.81	2.84	0.45
Helicopter	23.99	19.92	101.64	121.56	9.37	66.14	68.94	68.94	-
Total Maximum Daily	137.03	23.84	149.48	173.32	9.65	72.54	75.75	71.78	0.45
Significance Thresholds	-	-	-	137	-	-	-	-	7
Significant?	-	-	-	Yes	-	-	-	-	No
Maximum Quarterly Emissions (tons/quarter)									
CalEEMod Sources	-	-	-	.85	-	0.06	-	-	0.11
Helicopter	-	0.9	4.57	5.47	-	2.98	-	-	-
Total Maximum Quarterly	-	-	-	6.32	-	3.04	-	-	0.11
Significance Thresholds	-	-	-	Tier 1 2.5 Tier 2 6.3	-	2.5	-	-	0.13
Significant?	-	-	-	Yes, Tier 2	-	Yes	-	-	No

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Total Project Emissions (tons)									
CalEEMod Sources	9.73	.33	2.17	2.50	0.02	0.24	0.28	0.035	0.035
Helicopter	1.58	1.31	6.71	8.02	0.62	4.37	4.55	4.55	-
Total Construction Project	11.36	1.64	8.88	10.52	0.64	4.61	4.83	4.59	0.035

Notes: CalEEMod = California Emission Estimator Model; CO = carbon monoxide; DPM = diesel particulate matter; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter with aerodynamic radius of 2.5 micrometers or less; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases; SO_X = sulfur oxides.

As discussed above, combined ROG and NO_X emissions resulting from construction emissions would exceed SLOCAPCD's daily thresholds and quarterly Tier 1 and Tier 2 thresholds and, thus, would result in a cumulatively considerable increase. The DPM emissions resulting from construction do not exceed the daily or quarterly thresholds. The fugitive dust emissions resulting from construction would exceed the quarterly threshold mainly related to the helicopter fugitive dust emissions which will primarily occur at the Paso Robles airport.

These significant criteria air pollutant emissions could lead to increased concentrations of pollutants in the atmosphere and could result in health effects due to the increased emissions. The ambient concentration of criteria pollutants is a result of complex atmospheric chemistry; models to determine the concentrations and related health effects of emissions of pollutant precursors and direct emissions which are not readily available at the project level. Such modeling would require detailed information not only about the project, but also about the other pollutants being emitted in the region; this information is not widely available and, where it is available, its use would be speculative.

NO_X and ROG are precursors to ozone, and NO_X, ROG, and SO_X are precursors to secondarily formed $PM_{2.5}$. Chemical and physical processes transform some of these precursors to the criteria pollutant concentrations in the atmosphere. Multiple variables determine whether emissions of air pollutants from the project move and disperse in the atmosphere in a manner in which concentrations of criteria pollutants would become elevated and result in health impacts. A specific mass of precursor emissions does not equate to an equivalent concentration of the resultant ozone or secondary particulate matter in that area. The resulting health effects of ambient air concentrations are further based on a complex relationship of multiple variables and factors. The calculated health effects are dependent upon the concentrations of pollutants to which the receptors are exposed, the number and type of exposure pathways for a receptor, and the intake parameters for a receptor, which vary based upon age and sensitivity (e.g., presence of pre-existing conditions). Health effects would be more likely for individuals with greater susceptibility to exposure, and the location of receptors relative to the project impacts would affect whether receptors are exposed to project-related pollutants.

The following is a summary of the health effects from ozone, $PM_{2.5}$, and PM_{10}. Meteorology and terrain play major roles in ozone formation, and conditions for maximum ozone generation occur on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Central California can result in health effects. When inhaled, $PM_{2.5}$ and PM_{10} can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks and cause or aggravate bronchitis and other lung diseases. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Health effects of $PM_{2.5}$ include mortality (all causes), hospital admissions (respiratory, asthma, cardiovascular), emergency room visits (asthma), and acute myocardial infarction (non-fatal). For ozone, the endpoints are mortality, emergency room visits (respiratory), and hospital admissions (respiratory).

For this project, mass emissions from construction could exceed significance thresholds even if assuming the use of all Tier 4 final construction equipment as shown in the mitigated emissions. Though the Project's emissions are significant for these criteria air pollutants, it is anticipated that the health effects from the Project would generally be low compared to background incidences of such health effects due to the relatively low level of emissions from this project compared to the total emissions in the South Central Coast Air Basin.

As discussed in Chapter 2, *Project Description*, there are several applicant proposed measures (APMs) that would be implemented to reduce potential impacts related to air quality, including APMs AIR-1, AIR-2, and AIR-3. Even with the implementation of APM measures, construction-related ROG and NO_X emissions threshold exceedances would be considered a significant impact. **Mitigation Measure ~~AIR~~AQ-1** is proposed to reduce potentially significant impacts, requiring implementation of SLOCAPCD standard mitigation measures, BACT, and preparation of a site-specific CAMP that must be reviewed and approved by the air pollution control district (APCD) prior to the start of construction. The CAMP would be a comprehensive document that captures all pollutant emission reduction measures to be implemented for the approved project. Approval by the APCD would ensure all feasible and appropriate mitigation measures have been incorporated.

Even with implementation of Mitigation Measure ~~AIR~~AQ-1, ROG and NO_X emissions would still be expected to exceed significance thresholds; therefore, this impact would result in a cumulatively considerable increase in criteria pollutants for which the region is in non-attainment, and the impact remains **significant and unavoidable**.

Mitigation Measure AQ-1: Prepare a Construction Activity Management Plan for Review by SLOCAPCD and Final Approval by CPUC.

Horizon West Transmission (HWT), Pacific Gas and Electric Company (PG&E), or their contractor(s) shall implement the following measures:

- Prepare a CAMP. The CAMP shall be submitted to the APCD for review and to CPUC for final approval prior to the start of construction and shall include, but not be limited to, the following elements:

1. Evaluation of all SLOCAPCD standard and expanded fugitive dust mitigation measures for incorporation as a mitigation measure into the CAMP. Minimum performance criteria for fugitive dust measures to control dust is not to exceed 20% opacity for greater than 3 minutes in any 60-minute period while construction activity is occurring and disturbed areas are not covered, vegetated, or chemically stabilized;

2. Evaluation of all SLOCAPCD standard construction equipment mitigation measures and evaluation of construction equipment BACT for incorporation as a mitigation measure into the CAMP or documentation of infeasibility. Minimum performance standard is meeting or exceeding all applicable CARB mobile source and off-road equipment fleet regulations and documentation on why anything less than a Tier 4 final off-road engine is infeasible for the project such as unavailability of specialized equipment with a Tier 4 Final engine;

3. A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "fugitive dust control measures" listed in part 1; and include the following additional dust mitigation measures:

    a. Equipment must be washed down before moving from the property onto a paved public road.

    b. All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.

    c. Installation of one or more of the following track-out prevention measures:

        i. A gravel pad designed using good engineering practices to clean the tires of existing vehicles,

        ii. A tire shaker,

        iii. A wheel wash system,

        iv. Pavement extending for not less than fifty consecutive feet from the intersection with the paved public road, and/or

        v. Any other measure the CPUC finds as effective as the measures listed above.

    d. Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days, which shall include one or more of the following:

i. Keep the surface adequately wetted as follows: (A) If the district-approved dust mitigation plan has specified a percent moisture content for specific materials the determination shall be as specified in the district-approved dust mitigation plan; or (B) If no moisture threshold is specified in a district-approved dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road, or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface. The material shall be considered to be adequately wetted if there is no observable dust emitted when the material is dropped.

ii. Establishment and maintenance of surface crusting sufficient to satisfy the following: Measurement of the stability of surface crusting on horizontal surfaces" shall be as follows: (A) Where a visible crust exists, drop a steel ball with a diameter of 15.9 millimeters (0.625 inches) and a mass ranging from 16 to 17 grams from a distance of 30 centimeters (one foot) directly above (at a 90-degree angle perpendicular to) the ground surface. If blow sand (thin deposits of loose grains covering less than 50 percent of the surface that have not originated from the surface being tested) is present, clear the blow sand from the surfaces to be tested before dropping the steel ball. Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations; (B) A sufficient crust is determined to exist if, when the ball is dropped as described in A., the ball does not sink into the surface so that it is partially or fully surrounded by loose grains and, upon removing the ball, the surface on which it was dropped has not been pulverized so that loose grains are visible. (C) To determine that a surface is sufficiently crusted, three different test areas must pass the ball drop test. Within each different test area, the ball is dropped three times in each test area within a survey area measuring 1 foot by 1 foot that represents a random portion of the surface being evaluated. The test area shall be deemed to have passed if at least two of the three times the ball was dropped, the results met the criteria specified in B. Only if all three different test areas pass, the area shall be deemed to be "sufficiently crusted."

iii. Covering with tarp(s) or vegetative cover;

iv. Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile;

v. Installation of wind barriers across open areas; or

vi. Any other measure as effective as the measures listed above.

e. Suspend grading operations when wind speeds are high enough to result in dust emission crossing the property line despite application of dust mitigation measures.

f. All earth moving activities should be ceased in times of high wind conditions defined as sustained wind speeds exceeding 25 miles per hour and /or if two wind gusts in excess of 25 mph are recorded in a 30-minute period.

4. Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation) on a projected and actual monthly basis. Ensure a minimum performance standard for DPM emissions of less than the SLOCAPCD significance threshold of 7 pounds daily and 0.13 tons per quarter is achieved. It is unlikely given the current projections for the Proposed Project that the DPM thresholds would be exceeded. If any monthly projection of emissions associated with the Project's equipment usage is within 10% of this daily or quarterly DPM threshold, HWT, PG&E, and/or its contractors will adjust the equipment used and/or schedule to ensure that exceedance of these thresholds is avoided. The minimum performance standard for quarterly emissions of ROG and NO_X is the Tier 2 threshold of 6.3 tons. To ensure that emissions are below the Tier 2 threshold for ROG and NO_X, PG&E, HWT and its contractors will implement suitable emission reduction measures, which may include, but would not be limited to:

   a. Work with SLOCAPCD to establish emission offsets to reduce net emissions below 6.3 tons in a quarter;

   b. Limit the length of construction work-day periods and/or implement phased approaches for construction activities; and/or

   c. Implement any other suitable emission reduction measures to ensure that emissions are below the Tier 2 threshold.

5. Schedule construction truck trips during non-peak hours (i.e. avoid peak commute times such as 7-9 am and 4-6 pm) to reduce peak hour emissions to the extent feasible.

~~**Mitigation Measure AQ-1: Prepare a Construction Activity Management Plan for Approval by SLOCAPCD.**~~

~~HWT, PG&E, or their contractor(s) shall implement the following measures:~~

- ~~Prepare a Construction Activity Management Plan that contains at a minimum the following SLOCAPCD standard mitigation measures, BACT measures and diesel idling restrictions that are not already in the APMs. The CAMP shall be submitted to the air pollution control district (APCD) for review and approval prior to the start of construction and shall include, but not be limited to, the following elements:~~

~~1. A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "dust control measures" section;~~

~~2. Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation). Use of diesel construction equipment meeting CARB's Tier 3 and Tier 4 off-road and 2010 on-road compliant engines; Repowering equipment with the cleanest engines available; At a minimum, the off-road equipment fleet shall meet the CARB off-road emissions average for that calendar year and ensure that quarterly DPM emissions are less than SLOCAPCD significance thresholds.~~

~~3. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions;~~

~~4. Limits for the length of construction work-day periods and/or phased approaches for construction activities, if determined appropriate and necessary by the APCD.~~

Operation

The Proposed Project's operational emissions would be negligible and would be substantially lower than the SLOCAPCD's operational significance thresholds. Maintenance and inspection are anticipated to be minimal as the substations and power lines would be controlled remotely. Maintenance and inspection activities would take place less than once a month. The low amount of operational emissions and intermittent nature of these activities would not result in emissions that would exceed the criteria emission significance thresholds. Therefore, the impact of operations would be **less than significant.**

Impact AQ-3: Potential to expose sensitive receptors to substantial pollutant concentrations – ~~*Less than Significant*~~*Significant and Unavoidable*

An evaluation of the potential to expose sensitive receptors to substantial pollutant concentrations can be either a qualitative assessment based on the quantity of pollutants released, duration of the project, and location of sensitive receptors to the project location, or it can be quantitative, involving complex modeling of pollutant dispersion, exposure, and toxicity.

Estimates of chronic and cancer health effects associated with DPM and other fossil fuel combustion TACs associated with construction emissions over short periods are uncertain for several reasons. Cancer Potency Factors (CPFs) are based on animal lifetime studies or worker studies with long-term exposure to the carcinogenic agent, not short-term exposure like that which would occur during temporary construction. Some studies indicate that the dose rate affects the potency of a given dose of a carcinogenic chemical. In other words, a dose of emissions delivered over a short period may have a different potency than the same dose of emissions delivered over a lifetime (OEHHA 2015). Furthermore, construction impacts are most substantial adjacent to the construction area and decrease rapidly with distance. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005).

In most locations of pole installation for the Proposed Project, a given sensitive receptor would only be potentially exposed to emissions for the short amount of time it takes to install about 3 poles. After 3 poles, the distance to the sensitive receptor would be greater than 1,000 feet. The SLOCAPCD CEQA Air Quality Handbook states that "the proximity of sensitive individuals (receptors) to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic diesel PM impacts…types of construction projects that typically require a more comprehensive evaluation include large-scare, long-term projects that occur within 1,000 feet of a sensitive receptor location(s)" (SLOCAPCD 2017, p 2-3). Thus, projects with short-term impacts with sensitive receptors further than 1,000 feet away do not typically require a Health Risk Assessment (HRA). For the proposed Project, the longest period of construction activity and associated emissions in one location would be during construction of the Estrella Substation. The nearest sensitive receptors to this site are approximately 215 feet southwest of the site. However, the nearby sensitive receptors to the Estrella Substation site are not downwind from the most prominent wind directions so the majority of the construction emissions that would occur at this site are unlikely to disperse toward these receptors as shown in Figure 4.3-1.

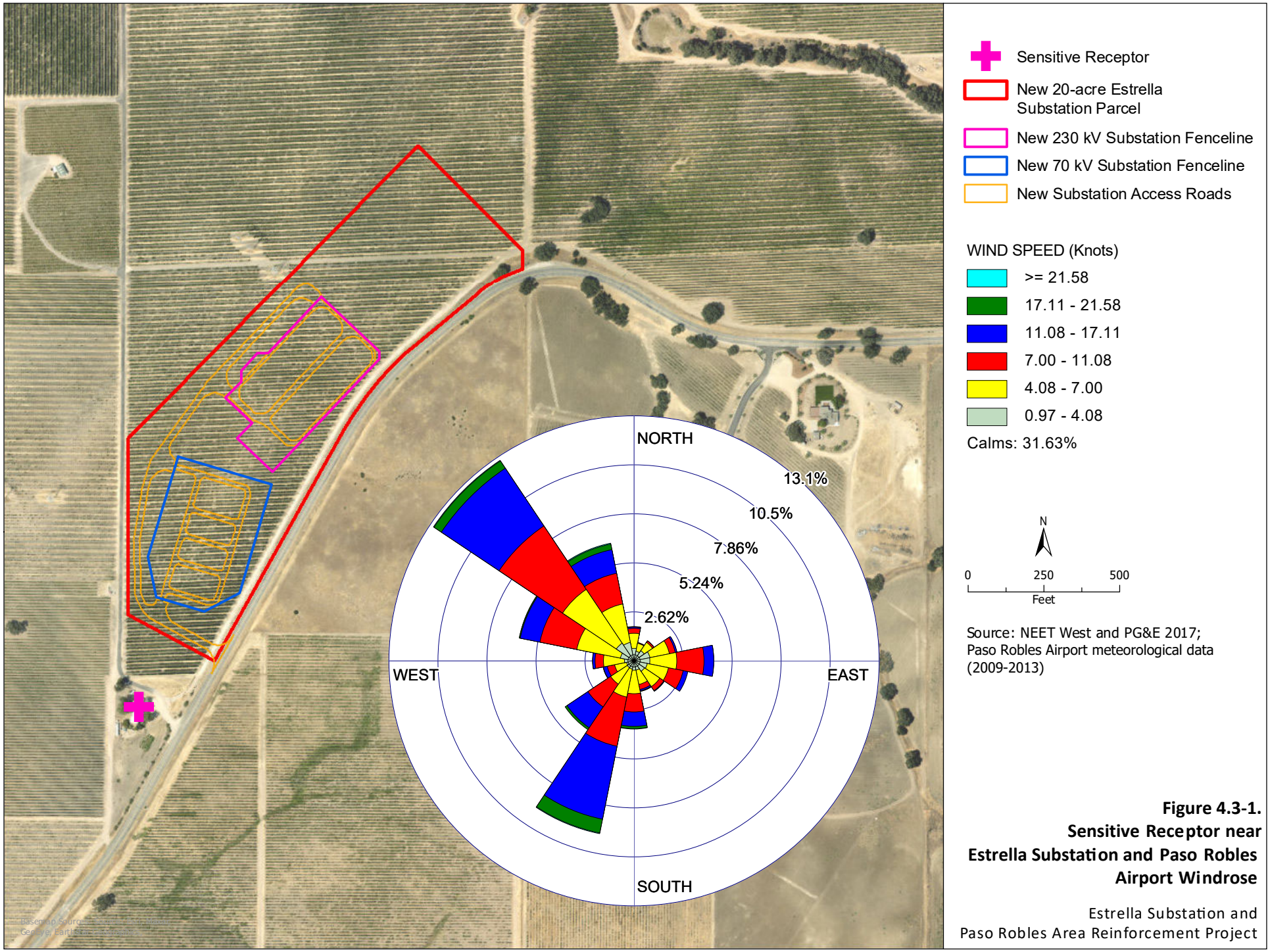

Figure 4.3-1.
Sensitive Receptor near Estrella Substation and Paso Robles Airport Windrose

Estrella Substation and
Paso Robles Area Reinforcement Project

The SLOCAPCD has defined the excess cancer risk significance threshold at a cancer risk of 10 in a million or less and an acute hazard index of 1 or less as stated in the referenced California Air Pollution Control Officers Association (CAPCOA) Health Risk Assessments for Proposed Land Use Projects (2009).

A public comment on the Draft EIR included an HRA prepared by the commenter's consultants, which suggested that health impacts may be above the thresholds for the SLOCAPCD (see Appendix A to this recirculated DEIR, Key Document #5). An HRA is used to evaluate the health risks associated with a project. The HRA involves estimating emissions of DPM and TACs, followed by air dispersion modeling to estimate ambient air concentrations at various distances from the source of emissions (e.g. construction equipment). After the ambient air concentrations are determined, these are combined with exposure parameters (e.g. breathing rate, time at location) and toxicity information to determine health impacts on nearby sensitive receptors.

The HRA conducted by the commenter contained two scenarios (one in which Tier 4 Final engines are used [Scenario #1], and one in which Tier 2 engines are used [Scenario #2]) (Environmental Permitting Specialists 2021). Scenario 1 in this HRA matches closest to the types of equipment and anticipated emissions of the Proposed Project since Mitigation Measure AQ-1 requires implementation of Tier 4 Final engines and is similar to the emissions shown in the mitigated scenario of Table 4.3-5b. Scenario 2 assumed use of Tier 2 engines which would be more conservative than the unmitigated emissions presented in Table 4.3-5a as implementation of California off-road fleet rules requires most fleets to have most equipment use better than Tier 2 engines. For Scenario 1, this commenter-prepared HRA indicates that in some locations near the Estrella Substation site, the cancer risk may be up to 25 in a million. This cancer risk of 25 in a million is above the SLOCAPCD threshold of 10 in a million. The commenter's HRA also suggests that acute health impacts would be less than 1 for Scenario 1 and therefore would be below the SLOCAPCD acute hazard index threshold of 1.

The CPUC's qualitative analysis, as documented in the DEIR, supports a finding that human health impacts from construction-related DPM and other TAC emissions would be relatively limited due to the short construction duration and the sparsely populated area surrounding the project site. Information provided by the commenters and their consultants was not adequate to conduct a thorough review to determine if their model accurately represents the Proposed Project, as key details required to make their study reproducible regarding the specific sources spatial representation and actual emissions assigned to specific sources were not provided. Despite, the lack of detailed information provided, this analysis conservatively concludes, based on the limited data provided in the commenter's HRA, that a few receptors located close to the project construction areas, in particular the Estrella ~~s~~Substation area, may experience increased TACs which may lead to adverse health impacts. This impact would be significant.

~~Due to the limited construction duration, the limited construction emissions, and the sparsely populated area surrounding the project site, there is very low potential for fugitive dust or DPM to impact sensitive receptors during construction. Because of the limited duration of construction in any one location, total Project construction-related DPM and other TAC emissions would not be of a magnitude and duration great enough to result in significant air toxic risks to exposed sensitive receptors. While this impact would be less than significant,~~ ~~i~~Implementation of APMs AIR-1, AIR-2, and AIR-3 and **Mitigation Measure AQ-1** would ~~also~~

provide a substantial reduction in the DPM emissions that occur on the project site during construction . due to use of diesel particulate filters and using Tier 4 final engines to the extent feasible. However, even with this mitigation, the impact would remain significant.

Additionally, the potential for Valley Fever cases associated with Proposed Project construction is high given that San Luis Obispo County has some of the highest incidence rates in the state. Cal/OSHA regulations address worker health and safety issues related to Valley Fever. There is the potential even after implementation of the fugitive dust mitigation measures for spores to reach nearby sensitive receptors. Since Valley Fever is endemic to the area, nearby sensitive receptors may already have developed immunity. **Mitigation Measure AQ-2**- requires, prior to the start of construction, the project applicants or their contractors to draft a Valley Fever Management Plan (VFMP), consult with the California Department of Public Health and the San Luis Obispo Department of Public Health regarding Valley Fever best mitigation practices and implement all such feasible measures recommended by these agencies. The Proposed Project's operating emissions would be negligible and would not have the potential to impact sensitive receptors.

Therefore, the Project's construction and operation air pollutant emissions would notcould potentially expose sensitive receptors to substantial pollutant concentrations and would could result in a **less than** significantsignificant impact even after implementation of mitigation measures. Therefore, this impact would be **significant and unavoidable**.

Mitigation Measure AQ-2: Prepare a Valley Fever Management Plan for Review by CDPH and San Luis Obispo Department of Public Health and Final Approval by CPUC.

HWT, PG&E, or their contractor(s) shall implement the following measures:

- Prepare a VFMP. The VFMP shall be submitted to the California Department of Public Health and the San Luis Obispo Department of Public Health for review and to CPUC for final approval prior to the start of construction. The VFMP shall include, but not be limited to, the following elements as currently suggested by the California Department of Public Health:
  - Adopt site plans and work practices that reduce workers' exposure to minimize primary and secondary exposure to the community through direct dispersal of spores or secondary dispersal from contaminated workers or equipment bringing spores to the community. The site plans and work practices may include:
    - Minimize the area of soil disturbed.
    - Use water, appropriate soil stabilizers, and/or re-vegetation to reduce airborne dust.
    - Stabilize all spoils piles by tarping or other methods.
    - Provide air conditioned cabs for vehicles that generate heavy dust and make sure workers keep windows and vents closed.

- Suspend work during heavy winds.
- Onsite sleeping quarters, if provided, should be placed away from sources of dust.

- Take measures to reduce transporting spores offsite, such as:
  - Clean tools, equipment, and vehicles before transporting offsite.
  - If workers' clothing is likely to be heavily contaminated with dust, provide coveralls and change rooms, and showers where possible.
- Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect the community.
- Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect community.
- Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect community.

Impact AQ-4: Potential to create objectionable odors affecting a substantial number of people – *Less than Significant.*

Some objectionable odors may be temporarily created during construction-related activities, such as from diesel exhaust and asphalt paving activities, and/or during operation and maintenance-related activities, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated project site area. Therefore, any impacts from objectionable odors would be **less than significant**.

Reasonably Foreseeable Distribution Components and Ultimate Substation Buildout

Construction and operation activities for the reasonably foreseeable distribution components would be similar to the Proposed Project, but on a much smaller scale. Installation of reasonably foreseeable distribution poles would require much less effort and equipment use than that for the 70 kV poles and require construction of only 1.7 miles of new distribution line. Likewise, installation of the additional 21/12 kV transformers would require minimal site preparation and grading, while the work within the substation would require no new ground disturbance.

Ultimate substation buildout (e.g., installation of additional transmission and distribution transformers and associated equipment within the substation footprint) would similarly be on a smaller scale than the Proposed Project. Buildout of the substation would not be of a level to emit substantial amounts of criteria air pollutants or conflict with the SLOCAPCD air quality plan. While the new distribution and transmission lines from Estrella Substation supported through ultimate buildout could involve construction activities that could exceed significance thresholds for criteria air pollutants, these impacts are speculative at this time. Thus, similar to the Proposed Project, the reasonably foreseeable distribution and ultimate substation buildout components would not conflict with or obstruct implementation of the applicable air quality plans. This impact under significance criterion A would be **less than significant**.

The reduced use of construction-related equipment (e.g., less equipment and lesser duration of use) and the smaller scale of activities associated with the reasonably foreseeable distribution and ultimate substation buildout components as compared to the Proposed Project, would result in a small fraction of the Proposed Project's criteria pollutant emissions. The Applicants would implement APM AIR-1, AIR-2, and AIR-3, which would further reduce or minimize emissions. Because criteria pollutant emissions would be below the SLOCAPCD's daily and quarterly criteria pollutant significance thresholds, impacts under significance criterion B would be **less than significant.**

Like the Proposed Project, the criteria pollutant and TAC emissions from the reasonably foreseeable distribution and/or ultimate substation buildout components would be largely one-time, construction-related emissions that would not substantially impact sensitive receptors during construction. The reasonably foreseeable distribution and ultimate substation buildout components would generate fugitive dust or DPM emissions that are not of a magnitude and duration to create significant air toxic risks to the nearest receptors. While this impact would be less than significant, implementation of APMs AIR-1, AIR-2, and AIR-3 would also provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the applicable APMs would reduce the fugitive dust emissions during construction of the reasonably foreseeable distribution components and associated impacts to sensitive receptors. Thus, impacts under significance criterion C would be **less than significant.**

Some objectionable odors may be temporarily created during construction-related activities for the reasonably foreseeable distribution and ultimate substation buildout components, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated project site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternatives

No Project Alternative

Under the No Project Alternative, no impacts from criteria air pollutants and TACs would occur. No new substation or new/reconductored power line would be constructed; therefore, there would be no construction emissions or potential for increased emissions from maintenance and operations. **No impact** would occur under significance criteria A, B, C, or D.

Alternative SS-1: Bonel Ranch Substation Site

Similar to the Proposed Project, Alternative SS-1 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative SS-1's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative SS-1 would not conflict with any applicable General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Alternative SS-1 would have slightly higher potential for criteria air pollutants and TAC emissions compared to the proposed Estrella Substation. The substation located at the Bonel Ranch site would involve a longer length of the 230 kV interconnection and therefore require approximately one additional month of construction. Because geotechnical studies have not been completed for this site, it is possible that unsuitable soils could be encountered during construction of the substation or 230 kV connection that could require greater excavation, off-haul, and/or import of soils than the Proposed Project. Operations and maintenance of Alternative SS-1 would be similar to that of the proposed Estrella substation. The additional construction emissions for this alternative would cause a slight increase in the amount of ROG and NO_X emissions as well as fugitive dust as compared to the Proposed Project. As with the Proposed Project, even with the implementation of APMs, construction-related ROG and NO_X emissions threshold exceedances would be considered a significant impact. Implementation of **Mitigation Measure AQ-1** would decrease emissions, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts to criteria pollutant emissions under criterion B from Alternative SS-1 are anticipated to be **significant and unavoidable**.

Alternative SS-1's additional construction emissions would cause a slight increase in the amount of DPM. It is not anticipated that this slight increase in emissions would cause emissions to exceed SLOCAPCD's significance threshold for DPM emissions. Since this location has sensitive receptors located further from the construction site, the health impacts to the nearest sensitive receptors would likely be lower compared to the Proposed Project, but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. ~~However, the limited construction duration, construction-related emissions and sparsely populated area surrounding the Alternative SS-1 site would result in low potential for DPM to impact sensitive receptors during construction. The slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors.~~ This impact would be significant. ~~While this impact would be less than significant, i~~Implementation of APMs and Mitigation Measure AQ-1 would also provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce emissions during Alternative SS-1 construction and associated impacts to sensitive receptors. Alternative SS-1's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative SS-1's

impacts under significance criterion C would be ~~**less than significant**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative SS-1, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative SS-1 site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative PLR-1A: Estrella Route to Estrella Substation

Alternative PLR-1A would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative PLR-1A's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative PLR-1A would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Due to its longer duration of construction (10 months longer for the new 70 kV line and 6 months longer for the reconductoring segment), Alternative PLR-1A would have greater potential for construction-related impacts to criteria air pollutant and TAC emissions compared to the Proposed Project. Operation and maintenance of Alternative PLR-1A would involve a similar number and frequency of vehicle trips compared to the Proposed Project 70 kV power line. The additional construction emissions for this alternative would cause a slight increase in the amount of ROG and NO_X emissions as well as fugitive dust and would result in a significant impact under criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emissions, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative PLR-1A are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause an increase in the amount of DPM emissions. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. However, the limited construction duration in any particular location and sparsely populated area surrounding the Alternative PLR-1A would result in a low potential for DPM to impact sensitive receptors during construction. Since this location has fewer sensitive receptors, and many sensitive receptors are located further from the construction site, the health impacts to the nearest sensitive receptors would likely be lower compared to the Proposed Project, but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. This impact would be significant. ~~Further, the longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, the potential for DPM emissions to exceed SLOCAPCD's significance thresholds would be considered a significant impact for criterion C.~~ Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce emissions during Alternative PLR-1A construction and associated impacts to sensitive receptors. Alternative PLR-1A's operating

emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative PLR-1A's impacts under significance criterion C would be ~~**less than**~~ **significant** ~~**with mitigation**~~**and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative PLR-1A, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative PLR-1A site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1

Alternative PLR-1C would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative PLR-1C's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative PLR-1C would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Alternative PLR-1C would be similar in length to Alternative PLR-1A and would require a similarly extended construction duration compared to the Proposed Project. As such, the alternative would have the same potential for increased construction-related criteria air pollutant and TAC emission impacts as Alternative PLR-1A (see above). Operation and maintenance of Alternative PLR-1C would involve a similar number and frequency of vehicle trips compared to the Proposed Project 70 kV power line. The additional construction emissions for this alternative would cause a slight increase in the amount of ROG and NO_X emissions as well as fugitive dust and would result in a significant impact under criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emission, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative PLR-1C are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase in the amount of DPM emissions. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. However, the limited construction duration in any one location and sparsely populated area surrounding the Alternative PLR-1C alignment would result in low potential for DPM to impact sensitive receptors during construction. Since this location has fewer sensitive receptors, and many sensitive receptors are located further from the construction site, the health impacts to the nearest sensitive receptors would likely be lower compared to the Proposed Project but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. This impact would be significant. ~~Further, the longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, the potential for DPM emissions to exceed~~

~~SLOCAPCD's significance thresholds would be considered a significant impact for criterion C.~~ Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce emissions during Alternative PLR-1C construction and associated impacts to sensitive receptors. Alternative PLR-1C's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative PLR-1C's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative PLR-1C, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative PLR-1C site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative PLR-3: Strategic Undergrounding, Options 1 & 2

Alternative PLR-3 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative PLR-3's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative PLR-3 would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Alternative PLR-3 would require a slightly longer construction duration compared to the project for the 70kV powerline segment that would be buried underground. Construction of Alternative PLR-3 (both options) would require a total of 12 months compared to 10 months for the entire overhead new 70 kV power line segment. The type of construction equipment used for trenching the powerline underground is different from equipment used to construct overhead lines. Therefore, it is possible that construction emissions could either slightly increase or decrease depending on the combination of time and changes to equipment. Nevertheless, these slight changes are not expected to substantially alter the alternative's overall potential for construction-related impacts to criteria air pollutant and TAC emissions as compared to the Proposed Project 70 kV powerline. Operation and maintenance of Alternative PLR-3 would involve similar number and frequency of vehicle trips compared to the Proposed Project 70 kV powerline.

The construction emissions for this alternative would cause a slight increase or decrease in the amount of ROG and NO_X emissions as well as fugitive dust as compared to the Proposed Project. As discussed above under Impact AQ-2, the Proposed Project would result in a significant impact under significance criterion B because of construction-related ROG and NO_X emissions threshold exceedances. These exceedances are substantial and would be primarily driven by project phasing in addition to the change to the alignment portion proposed for undergrounding. As a result, even in the case that ROG and NO_X emissions slightly decrease under Alternative PLR-3,

and most certainly under the scenario that emissions slightly increase, Alternative PLR-3 is still expected to exceed ROG and NO_X emissions thresholds. Therefore, Alternative PLR-3 would result in a significant impact under significance criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emissions but would not reduce emissions below the thresholds of significance. Since the impact of the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative PLR-3 are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase or decrease in the amount of DPM emissions. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. ~~However, the limited construction duration in any particular location and relatively sparsely populated area surrounding the Alternative PLR-3 alignments (both options) would result in low potential for fugitive dust or DPM to impact sensitive receptors during construction.~~This would be more intense in duration than the Proposed Project and may expose sensitive receptors to greater health impacts but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27. This impact would be significant. ~~Further, the slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, the potential for DPM emissions to exceed SLOCAPCD's significance thresholds would be considered a significant impact.~~ Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce the fugitive dust emissions during Alternative PLR-3 construction and associated impacts to sensitive receptors. Alternative PLR-3's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative PLR-3's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative PLR-3, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the Alternative PLR-3 site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation

Alternative SE-1A would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative SE-1A's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative SE-1A would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Construction of Alternative SE-1A would take slightly longer than the proposed Estrella Substation due to the longer length of the 230 kV interconnection, while the types of equipment to be used in each phase of construction would be the same. The number of construction vehicle trips and the frequency of the trips for Alternative SE-1A is estimated to be the same as for the Proposed Project (refer to Table 4.17-3 in Section 4.17, *Transportation and Traffic*); although, the number and frequency of haul trips associated with soil import/export cannot be determined since geotechnical studies have not been completed. The estimated number of vehicle trips and frequency of the trips necessary for operation and maintenance of the facilities under Alternative SE-1A would be the same as for the Proposed Project.

The construction emissions for this alternative would cause a slight increase or decrease in the amount of ROG and NO_X emissions as well as fugitive dust as compared to the Proposed Project. As discussed above, the Proposed Project would result in a significant impact under significance criterion B because of construction-related ROG and NO_X emissions threshold exceedances. Because these exceedances are substantial and would be primarily driven by project phasing in addition to the change to the substation location, even in the case that ROG and NO_X emissions slightly decrease under Alternative SE-1A, and most certainly under the scenario that emissions slightly increase, Alternative SE-1A is still expected to exceed ROG and NO_X emissions thresholds. Therefore, Alternative SE-1A would result in a significant impact under significance criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emission, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative SE-1A are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase or decrease in the amount of DPM emissions as well as fugitive dust. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. ~~However, the limited construction duration in any particular location and sparsely populated area surrounding the Alternative SE-1A site would result in low potential for fugitive dust or DPM to impact sensitive receptors during construction. Further, the slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, should DPM emissions exceed SLOCAPCD's significance thresholds, impacts would be considered significant.~~The sensitive receptors in this location are in similar proximity as the Proposed Project Estrella Substation and health impacts would likely be similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. This impact would be significant. -Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce the fugitive dust emissions during Alternative SE-1A construction and associated impacts to sensitive receptors. Alternative SE-1A's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of **Mitigation Measure AQ-2** would lower this risk, but not necessarily below the level of significance. Therefore, Alternative SE-1A's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative SE-1A, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative SE-1A site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative SE-PLR-2: Templeton-Paso South River Road Route

Alternative SE-PLR-2 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative SE-PLR-2's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative SE-PLR-2 would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

In total, construction of the new 70 kV power line segment for Alternative SE-PLR-2 would take 9 months less than the Proposed Project's 70 kV power line. The reconductoring segment would not be needed under Alternative SE-PLR-2 and emissions associated with this construction phase would be eliminated. The estimated number of vehicle trips and frequency of the trips necessary for operation and maintenance of Alternative SE-PLR-2 would generally be the same as for the Proposed Project.

The construction emissions for this alternative would cause a slight increase or decrease in the amount of ROG, NO_X emissions as well as fugitive dust as compared to the Proposed Project. As discussed above, the Proposed Project would result in a significant impact under significance criterion B because of construction-related ROG and NO_X emissions threshold exceedances. Because these exceedances are substantial and would be primarily driven by project phasing in addition to the change to the alignment, even in the case that ROG and NO_X emissions slightly decrease under Alternative SE-PLR-2, and most certainly under the scenario that emissions slightly increase, Alternative SE-PLR-2 is still expected to exceed ROG and NO_X emissions thresholds. Therefore, Alternative SE-PLR-2 would result in a significant impact under significance criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emission, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts to criteria pollutant emissions from Alternative SE-PLR-2 are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase or decrease in the amount of DPM emissions as well as fugitive dust. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM~~. However, the limited construction duration in any particular location would result in low potential for fugitive dust or DPM to impact sensitive receptors during construction. Further, the slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, should DPM emissions exceed SLOCAPCD's significance thresholds, impacts would be considered significant under significance criterion C~~. The sensitive receptors in this location are in similar proximity as the Proposed Project transmission routes and health impacts would likely be similar but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27

and may result in adverse health impacts. This impact would be significant. –Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce the fugitive dust emissions during Alternative SE-PLR-2 construction and associated impacts to sensitive receptors. Alternative SE-PLR-2's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of **Mitigation Measure AQ-2** would lower this risk, but not necessarily below the level of significance. Therefore, Alternative SE-PLR-2's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative SE-PLR-2, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the Alternative SE-PLR-2 site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative BS-2: Battery Storage to Address Distribution Need

It is assumed that Alternative BS-2 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative BS-2's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative BS-2 is not anticipated to conflict with any General Plan air quality goals or policies.

Alternative BS-2 has the potential to reduce criteria pollutant and TAC emissions as compared to the Proposed Project as it would involve substantially lower construction emissions. Any construction emissions associated with battery storage will involve minimal use of fossil fueled equipment during installations. Furthermore, the use of battery stored power during high demand periods will reduce the need for criteria pollutant emitting sources of electricity generation throughout the electricity grid, such as the use of peaker plants, which are fossil-fueled based. The impact of this alternative would depend on construction schedule overlap of the remaining construction phases, therefore it is unknown if this alternative would reduce the significant impact of construction emissions as compared to the Proposed Project.

The construction activities for this alternative would likely cause a slight decrease in the amount of DPM emissions as well as fugitive dust. Implementation of standard measures would also provide a reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations would reduce the fugitive dust emissions during Alternative BS-2 construction and associated impacts to sensitive receptors. Alternative BS-2's operating emissions would likely be negligible and would not have the potential to impact sensitive receptors.

Some objectionable odors may be temporarily created during construction-related activities for Alternative BS-2, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time.

Overall, because example FTM battery energy storage system (BESS) sites were selected for illustrative purposes only, BESS installations have not yet been designed and technologies have not been selected. Thus, the specifics of Alternative BS-2 are unknown, and project-level determinations cannot be made as impacts are speculative. Therefore, consistent with CEQA Guidelines Section 15145, no significance conclusion is provided for any of the significance criteria.

Alternative BS-3: Third-Party, Behind-the-Meter Solar and Battery Storage

It is assumed that Alternative BS-3 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative BS-3's emissions sources. Alternative BS-3 would not be anticipated to conflict with any General Plan air quality goals or policies.

Construction activities under Alternative BS-3 would include deliveries of individual BESS units to customers' properties, installation of the units on-site, and wiring work to connect the BESS to existing electrical systems. BESS units for larger commercial properties could be heavy and may require larger/specialized trucks for delivery, and may require use of a small crane for installation. Depending on the size of solar power and storage installations, it is unknown precisely how the construction emissions would compare to the Proposed Project; however, emissions would likely be substantially reduced due in part to the fact that helicopters would not be required for construction of behind-the-meter (BTM) facilities under Alternative BS-3 and ground disturbance would likely be less.

Once installed, BESS facilities under Alternative BS-3 would require minimal operation and maintenance. The use of BESS facilities may decrease the criteria pollutants emitted from electricity generation in the area by decreasing use of peaker plants and making more efficient use of renewable energy sources.

The impact of this alternative would depend on construction schedule overlap of the remaining construction phases. However, it is not possible to know the scope, scale, or timing of BTM procurements, and the third-party provider may select other types of distributed energy resources (DERs) (e.g., energy efficiency or demand response). It is assumed that all local codes and requirements would be followed for the permitting, siting, and installation of third-party BTM installations that may result from procurement via the Distribution Infrastructure Deferral Framework (DIDF).[1]

The construction activities for this alternative would cause an unknown change in the amount of DPM emissions as well as fugitive dust compared to the Proposed Project. The potential for DPM emissions to exceed SLOCAPCD's significance thresholds is speculative at this time. Compliance with the SLOAPCD rules and regulations and all local requirements would be

[1] See Chapter 3, Alternatives Description, Section 3.3.8 for further details about the DIDF.

required. Alternative BS-3's operating emissions would likely be negligible and would not have the potential to impact sensitive receptors.

Some objectionable odors may be temporarily created during construction-related activities for Alternative BS-3, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time.

Overall, due to the fact that specific locations and characteristics of BTM resources procured under Alternative BS-3 are unknown at this time, project-level impact determinations are not possible as the impacts are speculative. Therefore, consistent with CEQA Guidelines Section 15145, no significance conclusion is reached under any of the significance criteria.

Chapter 3
Report Preparation

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Chapter 4
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