

F. MITIGATION MONITORING, COMPLIANCE, AND REPORTING PROGRAM

This section presents the mitigation measures included in the Final EIR. The section is organized as follows:

- Section F.1 presents a brief discussion of the purpose of the Mitigation, Monitoring, Compliance, and Reporting Program (MMCRP) and the legal obligation the CPUC is under to adopt and oversee such a program;
- Section F.2 presents an overview of the monitoring strategy and a description of the contents of the Mitigation Implementation Plan that would need to be prepared in the event that the Project is approved;
- Section F.3 presents changes in mitigation measure text since issuance of the Draft EIR; and
- Section F.4 presents the final mitigation monitoring tables: separate tables are provided for measures to be implemented before construction, during construction, during operation, and a table for applicant proposed measures.

F.1 INTRODUCTION

The purpose of the Mitigation, Monitoring, Compliance, and Reporting Program (MMCRP) is to briefly describe the mitigation monitoring process for this Proposed Project and describe the roles and responsibilities of government agencies in implementing and enforcing the adopted mitigation measures. The MMCRP provides the recommended framework for monitoring and reporting on the implementation of mitigation measures as it would be handled by the CEQA Lead Agency: the California Public Utilities Commission (CPUC).

The Public Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service, as well as safety, practices, and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval be implemented properly, monitored, and compliance reported. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a MMCRP when it approves a project that is subject to preparation of an EIR and where the EIR for the project identifies significant adverse environmental effects.

The purpose of a MMCRP is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. The CPUC views the MMCRP as a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance and reporting activities of the CPUC and any monitors it may designate.

The CPUC will address its responsibility under Public Resources Code Section 21081.6 when it takes action in relation to applications made regarding the Proposed Project. If the CPUC approves the application, it will also adopt a MMCRP that includes the mitigation measures ultimately made a condition of approval by the CPUC.

F.2 THE MONITORING STRATEGY IN OVERVIEW

The monitoring strategy involves:

- The clear articulation of a series of measures designed to mitigate the impacts likely to be induced by the Proposed Project.
- The appointment, by the CPUC, of designated field monitors to observe that all construction activities are compliant with specified mitigation measures.
- The provision to the CPUC of monitoring reports prepared by appointed field monitors.
- The provision to the CPUC of copies of all tests, investigations, evaluations, and analyses carried out in accordance with the prescribed mitigation measures.
- The provision to the CPUC of copies of all other documentation pertaining to compliance with the mitigation measures as required in this MMCRP.

The Applicant and/or the Applicant's contractors will be required to comply with the MMCRP in all respects. In all instances where non-compliance occurs, the CPUC's designated environmental monitor shall issue a warning to the construction foreman and PG&E Co.'s project manager. Any decisions to halt work due to non-compliance shall be made by the CPUC. The CPUC's designated environmental monitor shall keep a record of any incidents of non-compliance with mitigation measures. Copies of these documents will be supplied to PG&E Co. and to the CPUC.

If the project is approved, the CPUC will prepare a Mitigation Implementation Plan (MIP) that will serve as a self-contained general reference for the MMCRP adopted by the CPUC for the Tri-Valley 2002 Capacity Increase Project. To accomplish this, the MIP should contain the following elements:

- Introduction: describing the authority and purpose of the MIP.
- Monitoring Organization: describing the roles and responsibilities of the key agencies involved in the monitoring effort.
- General Monitoring Procedures: describing the general procedures for monitoring the implementation of mitigation measures adopted by the CPUC, including procedures for reporting problems, resolving disputes, and dealing with variances to mitigation requirements.
- Project Description: providing a concise description of the project, outlining the physical locations and timetable, including construction spreads.
- Agency Jurisdictions: providing a list of agencies with jurisdiction over the project and a description of where their respective jurisdictions exist.
- Mitigation Monitoring Procedures: describing in detail the mitigation measures to be implemented for each issue area, along with the party responsible, the schedule, the reporting requirements for carrying out the monitoring activity for each mitigation measure, and effectiveness criteria for evaluating the implementation of the mitigation measure.

F.3 CHANGES TO MITIGATION MEASURES CONTAINED IN THE DRAFT EIR

Section C of both the Draft and Final EIRs include analyses of the 11 environmental issue areas listed below:

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| Air Quality | Biological Resources |
| Cultural Resources | Geology, Soils, and Paleontology |
| Hydrology and Water Quality | Land Use and Recreation |
| Noise | Public Health, Safety and Nuisance |
| Socioeconomics, Public Services and Utilities | Transportation and Traffic |
| Visual Resources | |

The environmental consequences and potential impacts that the Proposed Project or alternatives would bring to each issue area were analyzed in the Draft EIR. Numerous mitigation measures were proposed in the Draft EIR based on the analyses of the eleven environmental disciplines. Additional measures were modified in response to comments received on the Draft EIR. The new and modified mitigation measures recommended in this document are presented below in Table F-1. In Table F-1, deleted text is indicated by strikethrough text (~~strikethrough~~) and added text is indicated with underlines (underlines). If the mitigation measure is entirely new, no text is underlined.

Table F-1 New and Modified Mitigation Measures After the Draft EIR

Impact	New or Modified Measure (<u>underline</u> / strike-out indicates changes from Draft EIR)
Indirect impacts to wildlife from increased human presence and access. (Class II)	<p>B-5: a) Construction and maintenance activities shall be scheduled to avoid critical seasons. Raptor nests, vernal pools, riparian communities, sensitive habitats, and sensitive wildlife species will be avoided during specific seasons throughout the construction, operation, and maintenance of the Proposed Project. Avoidance periods and buffer distances for special status wildlife and plant species are shown in Table C.3-20; <u>this table shall be updated by PG&E prior to the start of construction to reflect any changes in special status species.</u> These buffer distances and avoidance periods are subject to review and modification by CDFG and are in accordance with the Applicant Proposed Measures.</p> <p>b) Surveys conducted prior to any construction activities will be performed by qualified biologists to locate raptor nests and other resources in/or adjacent to the ROW and access road areas. The burrowing owl is a ground nesting bird known to occur in the project area. To avoid disturbance to ground nests, pre-construction surveys will be conducted to identify current locations of these resources and to flag allowable travel routes. If nests are observed, the avoidance period and buffer distances shown in Table C.3-20 (<u>as updated in (a) above</u>) will be observed. Surveys will be based on the CDFG survey protocol established for baseline surveys on the Proposed Project.</p> <p>c) Specific distances from resources (see Table C.3-20 <u>and updates</u>) will be maintained during construction, maintenance, and overflights. Designated existing roads will be used; if such roads are not present, flagged routes that have been surveyed by a qualified biologist will be used (as in Mitigation Measure B-4).</p> <p>d) Biological monitors as specified by CPUC will be present during construction to verify that no vehicular travel occurs outside flagged areas. These biological monitors will have the authority to terminate construction activities if any adverse effect on special status species is observed or anticipated.</p>
Temporary and permanent loss of special status plant species and their habitats. (Class II)	<p>B-6: Surveys for special status plant species shall be conducted by a qualified biologist along the Proposed South Area route at the proposed tower construction sites and along proposed access roads according to the protocol developed by the California Native Plant Society (Nelson 1994, 1986). These surveys shall be conducted prior to the initiation of any construction activities and coincide with the appropriate flowering period of the special status plant species with the potential to occur in the area (Table C.3-3, <u>updated by PG&E prior to the start of construction to include species listed after completion of the EIR</u>). Maps depicting the results of these surveys will be prepared and will include other recently mapped special status plant occurrences in the area to ensure that the full scope of rare plant habitat in the project route vicinity is delineated, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. Any special status plant occurrences located within 200 feet of the proposed tower construction sites and along the proposed access roads will be fenced prior to the start of any construction. Maps and reports, as well as proposed fence locations, shall be provided to and approved by the CPUC's biological monitor prior to the start of construction.</p>

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Table F-1 New and Modified Mitigation Measures After the Draft EIR

Impact	New or Modified Measure (<u>underline/strike-out indicates changes from Draft EIR</u>)
Open cut crossing of Del Valle Creek. (Class II)	B-13: Prior to construction, a survey of the area that would be affected by the crossing construction shall be conducted to identify any sensitive plant or aquatic species; plants shall be flagged for avoidance. Construction shall be completed during the dry season (May to November) and erosion control measures shall be implemented to ensure that sedimentation within the stream is not increased. A biological monitor shall be on-site at all times during construction within the streambed.
Slope instability and unstable soil conditions. (Class II)	G-3: PG&E Co. should perform design-level geotechnical investigations to define areas of slope instability along the routes of constructed access roads through areas with known incidence of slope instability and unstable soil conditions. Where possible, areas with the potential for unstable slopes, landslides, mudflows, and debris flows along proposed access road routes should be avoided. Where avoidance of unstable conditions is impractical, excavation or stabilization of unstable slope material may also be performed, including grading of cut slopes, and excavation of unstable materials.
Accelerated hillslope erosion, increased sediment loading, and reduced surface water quality due to tower construction and road building activities. (Class II)	H-2: Excavated or disturbed soil shall be temporarily collected and placed in a controlled area surrounded by siltation fencing, hay bales, or a similarly effective erosion control technique that prevents the transport of sediment. <u>The following provisions shall be documented to the CPUC and the Alameda County Water District.</u> <ul style="list-style-type: none"> ▪ The Storm Water Pollution Prevention Plan (SWPPP) shall be designed specifically for the hydrologic setting of the Proposed Project, which includes upland slopes, tributary creeks, and larger streams. ▪ The staging of construction materials, equipment, and excavation spoils will be performed at least 100 feet outside of drainage channels or tributaries ▪ Where tower or substation construction activities occur near a creek or channel, sediment containment methods shall be performed at least 100 feet from the channel ▪ Upon completion of construction activities, excavated soil shall be replaced and graded to match the surroundings ▪ Surplus soil shall be transported from the site and disposed of appropriately.
Construction-related surface water contamination. (Class II)	H-3: The training program prescribed in Applicant Proposed Measure 8.2 shall not only describe general environmental concerns and procedures, but shall emphasize site-specific physical conditions to improve hazard prevention. For example, all flow paths to the nearest water bodies should be identified to workers and where hazardous materials may specifically impact the site shall be identified. <u>This provision shall be documented to the CPUC and the Alameda County Water District.</u>
Horizontal dry-boring beneath Arroyo Valle. (Class II)	H-7: A cross-sectional channel survey will be conducted across the bed of Arroyo Valle, above the placement of the underground line, prior to and following the dry boring process. <u>The applicant shall contact Zone 7's Flood Control Engineering Department to record and review original channel conditions and subsequent surveys, as well as, to receive encroachment permits. The final depth of the horizontal dry drills under the two designated arroyos shall be set so that the waterways now and in the future are not impacted and that possible future channel bed improvements are not precluded.</u> Subsequently, the Applicant shall repeat this cross-sectional survey once every five years, or following a 30-year discharge event on the stream (whichever occurs first), and report the results of this monitoring effort to the Zone 7 Water District. If streambed erosion occurs such that the steel casings are emergent, the Corps and Zone 7 shall be notified immediately.
Operational impacts to surface water and groundwater quality at substation. (Class II)	H-12: A cross-sectional channel survey will be conducted across the bed of Arroyo Las Positas above the underground line prior to and following the dry boring process. <u>The applicant shall contact Zone 7's Flood Control Engineering Department to record and review original channel conditions and subsequent surveys, as well as, to receive encroachment permits. The final depth of the horizontal dry drills under the two designated arroyos shall be set so that the waterways now and in the future are not impacted and that possible future channel bed improvements are not precluded.</u> Subsequently, the Applicant shall repeat this cross-sectional survey once every five years, or following a 30-year discharge event on the stream (whichever occurs first), and report the results of this monitoring effort to the Zone 7 water agency. If streambed erosion occurs such that the steel casings are emergent, agents from the USACOE and Zone 7 shall be contacted.
Flood impacts at Switching Station Site 2. (Class II)	H-13: Prior to construction, the applicant shall check grading plans and surveys of the proposed site to verify that the ground surface of the proposed substation shall be at least at elevation 10 feet above NGVD (Flood Zone B, 1 ft above the FEMA 100-year floodplain). This research shall be provided to the CPUC in the form of a letter report prior to the start of substation construction. If any portion of the site is below elevation 10 feet, it shall be raised.

Table F-1 New and Modified Mitigation Measures After the Draft EIR

Impact	New or Modified Measure (underline/strike-out indicates changes from Draft EIR)
<p>The overhead alignment through Sycamore Grove Regional Park would be visually incompatible with recreational use of the park and would conflict with conservation easements held by a regional land trust. (Class II)</p>	<p>L-7: PG&E Co. shall remove the existing 60-kV transmission line that crosses the park on the same approximate alignment as the S1 alignment. If this isn't feasible, the 230-kV alignment through the park shall be placed underground or the tap point and transmission line shall be aligned along the access road to the Zone 7 Water Treatment Plant located in an alternative alignment outside the park.</p>
<p>Transmission lines and support towers would penetrate airspace requiring referral to Federal Aviation Administration for Aeronautical Study. (Class II)</p>	<p>L-11: If Alternative S1 is approved by the CPUC, PG&E Co. shall immediately initiate an FAA Aeronautical Study by submitting FAA Form 7460-1 to the Western Pacific Region of the FAA. The Applicant shall comply with any requirements identified by the FAA, including those pertaining to the marking and lighting of transmission line support towers. <u>The CPUC shall also submit the project to the Alameda County ALUC for review, and shall comply with the recommendations of that agency, including disapproval of the alternative if the ALUC determines that the alternative would create an obstruction to air navigation and no suitable mitigation is feasible.</u></p>
<p>Old Vineyard Avenue Construction. (Class II)</p>	<p>L-12a: If the S2 or S4 Alternatives are selected and if Old Vineyard Avenue is identified as the selected route, the transmission line shall be located as follows:</p> <ol style="list-style-type: none"> (1) West from Highway 84, the underground route would be located in the firebreak road south of Vineyard, past Isabel Avenue to the western boundary of the Ruby Hill property (where the fire station is located). (2) West from the fire station, where the road narrows and New Vineyard diverges towards the northwest, the transmission line would be installed within the roadway. Where New and Old Vineyard converge and the road becomes a divided roadway, the transmission line would be installed within the roadway (with the final location to be determined in consultation with the City of Pleasanton as required in Mitigation Measure S-1).
<p>Potential conflicts with landowners. (Class II)</p>	<p>L-15a: If the D1 Alternative is selected, PG&E Co. shall address the land use concerns of private landowners (including Kiewit Construction Company) by modifying final design to minimize the land use impacts of the route on owners' continued use of lands crossed by transmission lines (e.g., by adjusting tower height or specific tower location). Such design modifications, if any, shall be submitted to the CPUC for review prior to the start of construction, as well as documentation regarding the potential environmental impacts of the proposed change.</p>
<p>Encroachment on proposed elementary school's required setback from transmission line. (Class II)</p>	<p>L-22a: If selected for implementation, the alignment for the Brushy Peak Alternative should be adjusted so as to maintain a separation of 150 feet from the edge of the transmission corridor right-of-way and the planned school property.</p>
<p>Cumulative construction effects. (Class II)</p>	<p>L-24: PG&E shall coordinate with affected agencies and proponents of proposed projects within or adjacent to the selected transmission route to minimize cumulative construction effects and avoid preclusion of other planned land uses to the maximum extent feasible. Said coordination shall take place during the final design and permitting stages of the transmission project and shall include, but not be limited to:</p> <ul style="list-style-type: none"> ▪ Provision of transmission route and construction schedule to affected parties; ▪ Coordination of construction activities with other construction projects; ▪ Coordination of utility disruptions and road or lane closures.
<p>Transition station proximity to residence. (Class III)</p>	<p>L-25: The route of the easternmost 1,000 feet of the P3 Alternative (as modified in the Final EIR, Section B.5) shall be evaluated by PG&E Co. in conjunction with the adjacent landowners and the transition station shall be relocated to at least 500 feet from any residence, if feasible.</p>

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Table F-1 New and Modified Mitigation Measures After the Draft EIR

Impact	New or Modified Measure (underline/strike-out indicates changes from Draft EIR)
Underground transmission line installation. (Class II)	S-1: PG&E Co. shall consult with local jurisdictions and agencies responsible for all underground utilities in order to define the exact placement of the underground transmission line. In addition, PG&E Co. shall evaluate the potential for the underground transmission line to increase corrosion on existing pipelines. If this potential is determined to exist, PG&E Co. shall be responsible for installation of the required cathodic protection systems that would eliminate this risk. A letter documenting these consultations and their results, including concurrence by the affected jurisdiction(s) and other companies, shall be provided to the CPUC prior to the start of construction.
Concurrent construction periods between the project and New Vineyard Avenue route. (Class II)	T-12: If the S2 or S4 Alternatives are selected in conjunction with the New Vineyard Avenue route, PG&E Co. shall coordinate with the City of Pleasanton regarding the status of New Vineyard construction. If PG&E Co. believes that construction of New Vineyard is not sufficiently advanced to allow timely installation of the underground transmission line, PG&E Co. shall present documentation of this finding to the CPUC Energy Division, supported by documentation from the City, at least 60 days before the start of construction. If the CPUC Energy Division concurs that road construction could delay installation of the transmission line, the Old Vineyard Avenue shall be utilized instead, as envisioned in the Draft EIR (and as defined and conditioned in Final EIR Section C.2.3).
Construction compatibility with Caltrans and the City of Dublin. (Class II)	T-13: In order to avoid conflict with Caltrans and City of Dublin activities related to on the I-580 interchange projects, and with Caltrans on the possible future widening of I-580, PG&E Co. shall coordinate issues of construction compatibility with Caltrans and the City of Dublin as part of the encroachment permit process.
Construction compatibility with Caltrans. (Class II)	T-14: In order to avoid conflict with Caltrans ongoing Isabel Avenue/I-580 Parkway and future BART station construction plans, PG&E Co. shall coordinate issues of construction compatibility with Caltrans as part of the encroachment permit process.
Night lighting of the transition station. (Class II)	V-4: All outdoor lighting is to be activated by a switch outside of the fenced facility. The switch is to be accessed by a key and the lights are to be turned on only when emergency work is underway.

**F.4 FINAL MITIGATION MONITORING, COMPLIANCE, AND REPORTING PROGRAM:
MITIGATION MEASURES AND APPLICANT-PROPOSED MEASURES**

F.4.1 MITIGATION MEASURES

When impacts were identified during the analysis of the Draft EIR, diligent effort was taken to identify mitigation measures that would reduce the impacts to a level that would be less than significant. Refer to Tables F-2, F-3, and F-4 for complete descriptions of the mitigation measures that the applicant will be responsible for implementing. The three tables are differentiated by the timing (i.e., prior to construction, during construction, during operations) of mitigation measure implementation, as follows:

- Table F-2: Measures to be implemented prior to construction
- Table F-3: Measures to be implemented during construction
- Table F-4: Measures to be implemented during operation.

Section F.4.2 presents Table F-5, Applicant Proposed Measures. This table presents the measures proposed by PG&E Co. in its Proponent's Environmental Assessment.

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
	AIR QUALITY				
Underground construction activities produce elevated levels of emissions compared to construction of overhead lines. (Class II)	A-5: Modify the route of the D2 Alternative (as shown in Figure C.2-2) so it connects with the existing San Ramon-Pittsburg 230 kV line approximately one-half mile northeast of the San Ramon Substation.	0.5 miles northeast of the San Ramon Substation	Verify project plans; confirm consistency during construction	Reduction of construction pollutant emissions	CPUC
Underground construction activities produce elevated levels of emissions compared to construction of overhead lines. (Class II)	A-6: The 230 kV transmission line to the proposed North Livermore Substation shall begin at a tap to the existing Contra Costa-Newark 230kV transmission line at a point due east of the proposed North Livermore Substation. The nearly two-mile long underground route would include approximately one-half mile of line installation across open space, and the remaining 1.5 miles would follow May School Road.	North Livermore Substation to the Contra Costa-Newark line	Verify project plans; confirm consistency during construction	Reduction of construction pollutant emissions	CPUC

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>Temporary and permanent loss of wetland plant communities. (Class II)</p>	<p align="center">BIOLOGICAL RESOURCES</p> <p>B-1a: The initial step for this measure will be completion of a jurisdictional wetlands delineation of the Proposed transmission line route by a qualified biologist/wetland scientist prior to the initiation of any construction activities. Once the delineated wetlands have been verified by the U.S. Army Corps of Engineers (USACE), site-specific avoidance measures will be finalized. Avoidance will consist of flagging or fencing designated travel routes and construction areas to minimize impacts to wetland plant communities. Flagging will be used to designate travel routes and work areas in portions of the Project route that are not immediately adjacent to wetland plant communities. Protective fencing will be installed to designate travel routes in those portions of the Proposed transmission line route that are immediately adjacent to wetlands. Construction work areas within or immediately adjacent to wetlands will be located and fenced to avoid or minimize wetland impacts.</p> <p>B-1b: Unavoidable temporary loss of wetland plant communities during construction shall be mitigated by restoration of the affected area to pre-construction conditions, as established in the jurisdictional wetland delineation. Where tower installation will permanently impact wetlands, compensatory mitigation shall be provided at a 2:1 ratio. Additional compensation will be required if the responsible agencies determine that restoration of temporary impacts has failed.</p> <p>A Restoration Plan/Compensatory Mitigation Plan shall be developed by PG&E Co. The plan shall be submitted to and approved by the USACE and Regional Water Quality Control Board (RWQCB) prior to the start of any construction activities. Implementation of the Restoration Plan/Compensatory Mitigation Plan shall be prior to or concurrent with project construction. The Plan will contain information for wetland mitigation location and wetland type to be created for any proposed off-site wetland creation, and details on soil preparation, seed collection, planting, maintenance, and monitoring for on-site restoration efforts and off-site wetland creation.</p>	<p>All wetland habitats in the proposed and alternate routes</p>	<p>Biological monitor present; photodocumentation; report submitted for review and approval within 30 days of construction</p>	<p>Planting survival rate designated in restoration plan (percent cover, height, species composition)</p>	<p>CDFG, CPUC</p>
<p>Temporary and permanent loss of upland plant communities. (Class II)</p>	<p>B-2a: A qualified biologist will determine if any of the trees located within the vicinity of the proposed access roads and within the 100-foot disturbance radius surrounding the proposed tower locations (PG&E 1999) qualify as Heritage Trees as defined by the governing jurisdiction (either the City of Pleasanton or Alameda County). If it is determined that the proposed access roads, transmission line towers, or surrounding impact areas will impact any Heritage Trees (due to trimming, removal, etc.), the following avoidance measures will be taken: re-routing or relocating access roads or towers and flagging or fencing designated travel routes and construction areas to ensure avoidance of Heritage Trees (supplemental CEQA review may be required if reroute/relocation not previously assessed in this EIR); protective fencing will be installed at the dripline of any Heritage Tree that will be avoided but may be indirectly affected by construction activities; excavation, grading, leveling, and disposal or deposition of harmful materials will be prohibited inside the dripline fence. Attachment of wires, ropes, or signs to Heritage Trees shall also be prohibited. A qualified biologist or arborist shall verify compliance with these protective measures prior to initiation of construction activities near Heritage Trees.</p> <p>B-2b: If Heritage Tree trimming or removal is unavoidable, the governing jurisdiction will be consulted. Further actions may require a permit that will include fees and/or replacement for affected trees. The City of Pleasanton Heritage Tree removal permit process requires payment of a fee in the amount of the appraised value of the tree in addition to 6:1 replacement with 24-inch boxed trees. Alameda County may require 1:1 tree replacement. These and other local jurisdictions, such as the City of Livermore, may apply their tree</p>	<p>All upland areas with potential heritage trees in the proposed and alternate routes.</p>	<p>Biological monitor present; photodocumentation; report submitted for review and approval within 30 days of construction</p>	<p>Planting survival rate designated in restoration plan (percent cover, height, species composition)</p>	<p>CDFG, CPUC</p>
<p>Temporary and permanent loss of upland plant communities. (Class II)</p>	<p>B-2b: If Heritage Tree trimming or removal is unavoidable, the governing jurisdiction will be consulted. Further actions may require a permit that will include fees and/or replacement for affected trees. The City of Pleasanton Heritage Tree removal permit process requires payment of a fee in the amount of the appraised value of the tree in addition to 6:1 replacement with 24-inch boxed trees. Alameda County may require 1:1 tree replacement. These and other local jurisdictions, such as the City of Livermore, may apply their tree</p>	<p>All upland areas with potential heritage trees in the proposed and alternate routes.</p>	<p>Biological monitor present; photodocumentation; report submitted for review and approval</p>	<p>Planting survival rate designated in restoration plan (percent cover, height, species)</p>	<p>CDFG, CPUC</p>

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Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
	<p>preservation ordinances on a case-by-case basis, so the replacement ratios and permit fees may vary.</p> <p>If the Proposed Project requires removal of any Heritage Trees, a Tree Replacement Plan will be prepared by a qualified forester, arborist, or restoration ecologist. This plan shall include:</p> <ul style="list-style-type: none"> ▪ Discussion of appropriate tree replacement ratios ▪ Identification of suitable tree replacement locations within or adjacent to the affected plant community ▪ Tree specifications, planting methodology, and timing of planting ▪ Description of protective staking and caging measures ▪ Description of five-year monitoring effort to measure replacement success ▪ Success criteria and contingency measures <p>The Tree Replacement Plan shall be submitted to and approved by the governing jurisdiction (either the City of Pleasanton or Alameda County) prior to the start of any construction activities. Implementation of the Tree Replacement Plan shall be concurrent with project construction.</p>		within 30 days of construction	composition)	
Overland travel disturbance of plant communities. (Class II)	<p>B-4: PG&E Co. shall map and flag overland travel routes prior to construction and periodic maintenance during operation to identify and avoid impacts to sensitive habitats (i.e., Seasonal Wetland) and minimize total impact area. Vehicles shall follow only the pre-approved travel routes marked by flags, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. The mapping/flagging shall be reviewed by a CPUC-approved biologist prior to use of these routes for construction or maintenance to ensure adequate protection for sensitive plant communities.</p>	All undeveloped portions of proposed and alternate routes	Biological monitor present; report to be submitted for review within 30 days of construction	No activity outside of designated areas	CDFG, CPUC
Indirect impacts to wildlife from increased human presence and access. (Class II)	<p>B-5a: Construction and maintenance activities shall be scheduled to avoid critical seasons. Raptor nests, vernal pools, riparian communities, sensitive habitats, and sensitive wildlife species will be avoided during specific seasons throughout the construction, operation, and maintenance of the Proposed Project. Avoidance periods and buffer distances for special status wildlife and plant species are shown in Table C.3-20 of the Draft EIR; this table shall be updated by PG&E prior to the start of construction to reflect any changes in special status species. These buffer distances and avoidance periods are subject to review and modification by CDFG and are in accordance with the Applicant Proposed Measures.</p>	All undeveloped portions of proposed and alternate routes	Specific monitoring/reporting determined by CDFG; documentation also provided to CPUC for review.	Prevent unauthorized access	CDFG, CPUC
Temporary and permanent loss of special status plant species and their	<p>B-5b: Surveys conducted prior to any construction activities will be performed by qualified biologists to locate raptor nests and other resources in/or adjacent to the ROW and access road areas. The burrowing owl is a ground nesting bird known to occur in the project area. To avoid disturbance to ground nests, pre-construction surveys will be conducted to identify current locations of these resources and to flag allowable travel routes. If nests are observed, the avoidance period and buffer distances shown in Table C.3-20 of the Draft EIR (as updated in (a) above) will be observed. Surveys will be based on the CDFG survey protocol established for baseline surveys on the Proposed Project.</p> <p>B-6: Surveys for special status plant species shall be conducted by a qualified biologist along the Proposed South Area route at the proposed tower construction sites and along proposed access roads according to the protocol developed by the California Native Plant Society (Nelson 1994, 1986). These surveys shall be conducted prior to the initiation of any construction activities and coincide with the appropriate flowering period of the special status plant species with the potential to occur in the area (Table C.3-3, updated by</p>	All undeveloped areas of proposed and alternate routes	Biological monitor present; photodocumentation; report within 90 days of construction/periodic	No loss of special status plants	USFWS CDFG, CPUC

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
habitats. (Class II)	<p>PG&E prior to the start of construction to include species listed after completion of the EIR). Maps depicting the results of these surveys will be prepared and will include other recently mapped special status plant occurrences in the area to ensure that the full scope of rare plant habitat in the project route vicinity is delineated, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. Any special status plant occurrences located within 200 feet of the proposed tower construction sites and along the proposed access roads will be fenced prior to the start of any construction. Maps and reports, as well as proposed fence locations, shall be provided to and approved by the CPUC's biological monitor prior to the start of construction.</p>		maintenance		
Overland travel disturbance of special status plant species and their habitats. (Class II)	<p>B-7: Surveys for special status plant species shall be conducted prior to initiation of any construction and maintenance activities as described in Mitigation Measure B-6. Occurrences of special status plant species shall be flagged and overland travel shall be prohibited in these areas, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. Travel routes which avoid special status plant species occurrences shall be flagged and mapped following approval consistent with Mitigation Measure B-4. Vehicles shall follow only the pre-approved travel routes marked by flags. Approval of survey reports and maps shall be consistent with Mitigation Measure B-6.</p>	All undeveloped areas of proposed and alternate routes	Biological monitor present; photodocumentation; report within 90 days of construction/periodic maintenance	No loss of special status plants	USFWS, CPUC, CDFG
Impacts to designated Alameda whipsnake critical habitat. (Class II)	<p>B-8: Pre-construction and pre-maintenance mapping and marking of designated critical habitat areas will be conducted in areas susceptible to construction and maintenance disturbance. Results of this delineation of critical habitat will be approved by the USFWS. In the event that excavation activities occur in areas identified as Alameda whipsnake critical habitat, PG&E Co. will enter into formal consultation with the USFWS and implement avoidance and minimization measures outlined in a Biological Assessment prepared for the whipsnake. Avoidance and minimization measures that the USFWS would likely require include the following:</p> <ul style="list-style-type: none"> ▪ Prior to ground-disturbing activities, a qualified biologist will instruct all project personnel in environmental training, including recognition of the Alameda whipsnake and its habitat. Under this program, workers shall be informed about the presence of the whipsnake and critical habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the federal Endangered Species Act. The biologist shall instruct all construction personnel regarding the life history of the whipsnake, the importance of scrub habitats to the snake, and the terms and conditions of the Biological Opinion issued by the USFWS. ▪ A qualified biologist will be present during construction activities to monitor and determine the extent of ground-disturbing activities within 50 feet of suitable habitat. ▪ All Alameda whipsnake critical habitat that could be lost due to construction activities will be calculated and reported to the USFWS and CDFG. This acreage will be mitigated at a 3:1 ratio with the purchase of habitat credits or the purchase of offsite mitigation land. 	Proposed South Area route and Alternative D2 (Dublin-San Ramon)	Biological monitor present; photodocumentation; report within 90 days of construction/periodic maintenance	No loss of designated Alameda whipsnake critical habitat	USFWS, CPUC, CDFG

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>Impacts to proposed designated California red-legged frog critical habitat (Class II)</p>	<p>B-9: Pre-construction and pre-maintenance mapping and marking of proposed critical habitat areas shall be conducted in areas susceptible to construction and maintenance disturbance. Results of this delineation of critical habitat shall be submitted to the USFWS for review and approval. In the event that excavation activities occur in areas identified as California red-legged frog critical habitat, PG&E Co. will enter into formal consultation with the USFWS and implement avoidance and minimization measures outlined in a Biological Assessment prepared for the frog. Avoidance and minimization measures that the USFWS would likely require include the following:</p> <ul style="list-style-type: none"> ▪ Prior to ground-disturbing activities, a qualified biologist will provide environmental training to all project personnel, including recognition of the California red-legged frog and its habitat. Under this program, workers shall be informed about the presence of the frog and critical habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the federal Endangered Species Act. The biologist shall instruct all construction personnel regarding the life history of the frog, the importance of aquatic and upland habitats to the species, and the terms and conditions of the Biological Opinion issued by the USFWS. ▪ A qualified biologist will be present during construction activities to monitor and determine the extent of ground-disturbing activities within 50 feet of suitable habitat. ▪ All proposed California red-legged frog critical habitat that could be lost due to construction activities will be calculated and reported to the USFWS and CDFG. This acreage will be mitigated at a 3:1 ratio with the purchase of habitat credits or the purchase of offsite mitigation land. 	<p>All undeveloped areas of proposed and alternate routes</p>	<p>Biological monitor present; photodocumentation; report within 90 days of construction/periodic maintenance</p>	<p>No loss of proposed designated California red-legged frog critical habitat</p>	<p>USFWS, CPUC, CDFG</p>
<p>Impacts to salt marsh harvest mouse. (Class II)</p>	<p>B-10: If Alternative D2 (San Ramon-Dublin), including reconductoring of the San Ramon-Pittsburg Line, were to be implemented, consultation is required with the USFWS and CDFG to coordinate avoidance and/or mitigation measures for the salt marsh harvest mouse. It is expected that all potential salt marsh harvest mouse habitat will be avoided. If habitat cannot be avoided, mitigation measures could include, but would not be limited to, the following:</p> <ul style="list-style-type: none"> ▪ Where reconductoring equipment is placed or new towers are located, an enclosure will be constructed to preclude the mouse from construction areas. ▪ A qualified biologist will remove all mice from within the enclosure in accordance with CDFG guidelines and federal requirements. ▪ A biological monitor will ensure the integrity of the enclosure by checking it daily. ▪ In any area where workers must walk through sensitive habitat to access construction areas, appropriate routes will be selected under the supervision of a biological monitor to minimize or avoid contact with pickleweed, even if such routes are less direct. ▪ Where several trips must be made through sensitive vegetation, the biological monitor will ensure that workers use multiple routes to avoid wearing a path into the vegetation. ▪ Upon reaching the construction area, workers will limit their daily trips to a minimum. ▪ Any temporary impacts to salt marsh habitat will be mitigated by implementation of a restoration/revegetation plan approved by resource agency personnel. ▪ Any permanent impacts will be mitigated through purchase of habitat credits or mitigation land. ▪ If necessary, a Section 7 consultation will be entered into with USFWS. 	<p>Between Mileposts SP21.71 and 22.54 (SP0.0 = San Ramon Substation and SP22.54 = Pittsburg Substation) at north end of San Ramon-Pittsburg route (San Ramon-Dublin alternative)</p>	<p>Biological monitor present; photodocumentation; report within 90 days of construction/periodic maintenance</p>	<p>No loss of salt marsh harvest mouse or suitable habitat</p>	<p>USFWS, CPUC, CDFG</p>

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Impacts to California clapper rail and California black rail. (Class II)	<p>Areas along the route with suitable foraging and/or nesting habitat for the California clapper rail and California black rail will be surveyed by a qualified biologist. The applicant will coordinate avoidance and/or mitigation measures developed with the resource agencies. Mitigation will include, but not be limited to the following:</p> <ul style="list-style-type: none"> Habitat will be avoided by spanning all suitable habitat. No construction will occur within 250 feet of known California clapper rail or California black rail breeding habitat during the period February 1 through August 31. No access to the construction site through rail habitat will occur during the same period. A biological monitor will be present at all times while construction occurs near the 250-foot buffer area for rail breeding habitat. The monitor will be on site from February 1 through August 31. In construction zones that occur close to the 250-foot buffer where workers must access, the number of daily trips made by the crew will be minimized. Any temporary impacts to salt marsh habitat will be mitigated by implementation of a restoration/revegetation plan approved by the resource agencies. Any permanent impact to suitable habitat will be mitigated with a purchase of habitat credits or purchase of off-site mitigation land. If necessary, a Section 7 consultation will be entered into with USFWS. 	Between Mileposts SP21.71 and 22.54 (SP0.0 = San Ramon Substation and SP22.54 = Pittsburg Substation) at north end of San Ramon-Pittsburg route (San Ramon-Dublin alternative)	Biological monitor present; photodocumentation; report within 90 days of construction/periodic maintenance	No loss of habitat and no disturbance during the breeding season	USFWS, CPUC, CDFG
Hydrologic impacts to special status plants. (Class II)	<p>Prior to construction, PG&E Co. shall use a qualified hydrologist to conduct groundwater flow studies to determine if the proposed underground line design will interfere with groundwater flows into the Springtown Wetlands Preserve. If the study determines that the underground transmission line and its associated trench and insulation will inhibit groundwater flows downslope, then a revised underground design that does not restrict flow will be required. Results of the studies will be provided to the Preserve Manager, CDFG and USFWS. The hydrologic assessment conducted for this environmental review has concluded it is unlikely that feasible undergrounding design can be developed (Section C.6.5.4, Impact 6-26). If no feasible design can be developed, implementation of the L1 Alternative would result in an unavoidable significant impact.</p>	L1 Alternative Alignment	Biological monitor present; photodocumentation; report within 90 days of construction/periodic maintenance	No interruption of groundwater flows to the Springtown Wetlands Preserve	USFWS, CPUC, CDFG
Open cut crossing of Del Valle Creek. (Class II)	<p>Prior to construction, a survey of the area that would be affected by the crossing construction shall be conducted to identify any sensitive plant or aquatic species; plants shall be flagged for avoidance. Construction shall be completed during the dry season (May to November) and erosion control measures shall be implemented to ensure that sedimentation within the stream is not increased. A biological monitor shall be on-site at all times during construction within the streambed.</p>	S5 Alternative	Biological monitor; construction during dry season.	Ensure minimal amount of sedimentation or streambed damage	CPUC, CDFG
CULTURAL RESOURCES					
Inadvertent impacts to recorded, reported, and known cultural resources identified in or adjacent to the project. (Class II)	<p>PG&E Co. shall develop a Cultural Resources Treatment Plan (CRTP) for the project including procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs), evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detail reporting requirements by the Project Archaeologist; discuss the curation of any cultural materials collected during the project; and, specify that archaeologists and other discipline specialists meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP). Areas where known cultural resources are present shall be avoided during construction and operation/maintenance. If avoidance is not possible, specific protective measures (which shall be defined in the CRTP) shall be implemented to reduce the potential adverse impacts on cultural resources to a less-than-significant level. The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction.</p>	<p>Alternative S1: Vineyard-Isabel Stanley: CA-A1a-475H, part of the former Remillard Brick Yard, appears adjacent to the alternative but will likely be avoided. CA-A1a-519H has been recorded in or</p>	<p>CPUC to verify that site has been avoided. CPUC to verify that ESA has been established. CPUC to review and approve Treatment Plan. CPUC to verify that PG&E's archaeologist is implementing procedures and requirements mandated in Treatment Plan in</p>	<p>Recorded, reported and known cultural resources within, near and adjacent to construction are not damaged or destroyed during construction.</p>	CPUC, relevant jurisdictional agencies

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
	<p>The CRTP shall define construction procedures for areas near cultural sites. Wherever a tower, access road, equipment, etc. must be placed or accessed within 100 feet of a recorded, reported or known archaeological site eligible or potentially eligible for the CRHR, the site will be flagged on the ground as an Environmentally Sensitive Area (ESA). Construction equipment shall then be directed away from the ESA, and construction personnel shall be directed not to enter the ESA. (Supersedes PG&E Co.'s Applicant Proposed Measure 9.1.)</p>	<p>adjacent. This site is part of an abandoned railroad bed and does not appear eligible for the CRHR based on the site data. Avoidance is recommended.</p> <p>Transcontinental Railroad grade and a railroad grade feature are crossed by alternative. Avoidance is recommended.</p> <p>Alternative D1: South Dublin</p> <p>Transcontinental Railroad grade is crossed by alternative. Avoidance is recommended.</p> <p>Alternative D2: Pittsburgh-San Ramon Reconductoring Prehistoric site CA-CCo-500 and historic era site CCo-502H are recorded in or adjacent to the existing corridor. Avoidance is recommended.</p> <p>Other identified cultural resources outside of a park consist of a major Native American trail, the Juan Bautista de Anza National Historic Trail [1776], and the</p>	<p>accordance with parameters and schedules.</p>		

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
		<p>Contra Costa Canal. Avoidance is recommended.</p> <p>Alternative L2: Hartman Road</p> <p>CA-Ala-519H has been recorded in or adjacent. This site is part of an abandoned railroad bed and does not appear significant. Avoidance is recommended.</p> <p>Transcontinental Railroad grade is crossed by alternative. Avoidance is recommended.</p> <p>Tesla Connection: Proposed Project</p> <p>Two identified cultural resources, the Juan Bautista de Anza National Historic Trail [1776] and the Transcontinental Railroad grade, are crossed by the existing corridor. Avoidance is recommended.</p> <p>Tesla Connection: Stanislaus Corridor</p> <p>The Juan Bautista de Anza National Historic Trail [1776] is crossed by the existing corridor. Avoidance is recommended.</p>			

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>Previously unrecorded cultural resources could be discovered during ground disturbing construction operations. (Class II)</p>	<p>C-2: All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction. Prior to the initiation of construction or ground-disturbing activities, PG&E Co. shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials including Native American burials. The following issues shall be addressed in training or in preparation for construction:</p> <ul style="list-style-type: none"> ▪ Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits. ▪ PG&E Co. shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential Environmentally Sensitive Areas (ESA) and anticipated procedures to treat unexpected discoveries. ▪ Upon discovery of potential buried cultural materials, work in the immediate area of the find shall be halted and PG&E Co.'s archaeologist notified. Once the find has been identified, PG&E Co.'s archaeologist will make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be important according to CEQA. <p>C-3: PG&E Co. shall inventory areas that were not surveyed for this EIR areas (as defined in Table C.4-3, and in the CRTP) for archaeological resources within proposed or existing corridors that could not be field-checked during EIR preparation due to property owner access constraints.</p>	<p>Throughout project area</p> <p>Tesla Connection: Stanislaus Corridor: Four discontinuous miles not surveyed by an archaeologist: MP V8 to V8.4 V8.65 to V10.3 V10.4 to V11.15 V11.25 to V11.8 V12.4 to V13.2</p>	<p>CPUC to verify that training is acceptable and provided to all construction personnel. CPUC to review and approve contract clauses requiring training for inclusion in excavation contracts. CPUC to verify that PG&E contractors stopped work at a "find" location and initiated appropriate procedures including notification of PG&E archaeologist – PG&E archaeologist to report results of field review and evaluation of any finds in accordance with the procedures in Mitigation Measure C-1</p>	<p>Training results in awareness of potential for presently unknown cultural resources by all construction personnel. Background briefing of supervisory construction personnel results in increased awareness of potential for unexpected discoveries at certain locations and increased vigilance at these locations. Appropriate stop work action notification and assistance is provided by construction personnel on discovery of a resource. Training of construction personnel clauses are inserted and training action completed for all excavation and other ground disturbing contracts. Cultural resources are not destroyed during construction; inadvertent discoveries including Native American burials are reported and treated in accordance with accepted procedures.</p>	<p>CPUC, relevant jurisdictional agencies CPUC to verify that training is acceptable and provided to all construction personnel. CPUC to review and approve contract clauses requiring training for inclusion in excavation contracts. CPUC to verify that PG&E contractors stopped work at a "find" location and initiated appropriate procedures including notification of PG&E archaeologist – PG&E archaeologist to report results of field review and evaluation of any finds in accordance with the procedures in Mitigation Measure C-1</p>

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
				Cultural resources within, near and adjacent to construction are not damaged or destroyed during construction. Cultural resources are not destroyed during construction; inadvertent discoveries are evaluated and treated in accordance with Treatment Plan parameters	Measure C-1.

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>Portions of the project will pass through, cross, or are adjacent to recognized parks, preserves, and recreational areas that may contain cultural resources. (Class II)</p>	<p>C-5: PG&E Co. shall consult with and implement any site-specific cultural resources requirements mandated by the East Bay Regional Park District (EBRPD) and the California Department of Parks and Recreation for project areas within EBRPD and State of California parks. The results of these consultations shall be documented in the CRTP. The following parks may be affected:</p> <ul style="list-style-type: none"> • EBRPD Shadow Cliffs Regional Recreation Area • EBRPD Brushy Peak Preserve • EBRPD Black Diamond Mines Regional Preserve, and, • EBRPD Morgan Territory Regional Preserve • Mount Diablo State Park (State of California) • Livermore Area Regional Parks District Sycamore Grove Regional Park. <p>C-1 and C-2 (See above).</p>	<p>EBRPD:</p>	<p>CPUC to verify that EBRPD and State of California have been consulted regarding cultural resources requirements within parks, preserves, and recreational areas</p>	<p>Cultural resources are not destroyed during subsurface construction and are treated in accordance with EBRPD or State of California cultural resource requirements</p>	<p>CPUC, relevant jurisdictional agencies, including EBRPD and State of California</p>
GEOLOGY, SOILS, AND PALEONTOLOGY					
<p>Corrosive soils. (Class III)</p>	<p>G-1: PG&E Co. should perform corrosivity testing on a site-specific basis for each support structure to be located within areas mapped as having high potential for corrosive soils by the USDA. Remediation measures or soil treatment procedures shall be implemented on a site-specific basis dependent upon the soil test results.</p>	<p>Areas with moderately to highly corrosive soils</p>	<p>Approve geotechnical report and foundation designs</p>	<p>Plan/design prevents corrosion of facilities/foundations to extent feasible</p>	<p>CPUC, local planning agencies</p>

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Crossings of active or potentially active faults by underground transmission line. (Class II)	G-2: For underground transmission line crossings of the Livermore, West Livermore, and Pleasanton faults, PG&E Co. shall comply with the City of Livermore's General Plan by designing the fault crossings to be at right angles to the fault and by constructing vaults at these crossings to accommodate potential displacements and allow access for rapid repair. If PG&E Co. considers these design measures to be infeasible or otherwise inappropriate, a geotechnical report documenting the fault crossing design shall be submitted for review and approval to the CPUC and the local jurisdiction. This report shall be submitted at least 30 days prior to the start of construction.	Crossings of Livermore, West Livermore, and Pleasanton faults	Review and approve geotechnical report	Report documents appropriate fault crossing engineering	CPUC, local planning agencies
Slope instability and unstable soil conditions. (Class II)	G-3: PG&E Co. should perform design-level geotechnical investigations to define areas of slope instability along the routes of constructed access roads through areas with known incidence of slope instability and unstable soil conditions. Where possible, areas with the potential for unstable slopes, landslides, mudflows, and debris flows along proposed access road routes should be avoided. Where avoidance of unstable conditions is impractical, excavation or stabilization of unstable slope material may also be performed, including grading of cut slopes, and excavation of unstable materials.	Proposed Project in the Pleasanton Area and portions of the Proposed Phase 2 and Stanislaus Corridor Alternative connections to the Tesla Substation.	Review and approve geotechnical report	Plan/design prevents destabilization of natural or constructed slopes to extent feasible	CPUC, local planning agencies
HYDROLOGY AND WATER QUALITY					
Increased stream channel erosion, sediment transport, and alteration of existing drainage pattern due to road building activities. (Class II)	H-1: Culverts designed to convey flow through this road shall be designed for the specific hydrologic and hydraulic conditions occurring at the site. Culvert design should follow standard practices (Caltrans Highway Design Manual, 1999) and should also include energy dissipation practices (Federal Highway Administration, 1983) and other best management practices. It is important that flow velocities are maintained below levels which are capable of causing channel erosion downstream or headward channel incision upstream.	Between Mileposts M-1.8 and M-2.6 along Proposed Route in Pleasanton Area. Potentially along North Area Route and Phase 2 Route as well.	Review road and culvert design, construction, operation, and maintenance plan; monitor construction	Compliance with approved plan. Flow networks of existing streams and drainage channels are not extensively altered. Channel erosion is not initiated as a result of construction activities	USACOE ACFCWCD (Zone 7) CCCFCDD CDFG CPUC
Accelerated hillslope erosion, increased sediment loading, and reduced surface water quality due to tower construction and road building activities. (Class II)	H-2: Excavated or disturbed soil shall be temporarily collected and placed in a controlled area surrounded by siltation fencing, hay bales, or a similarly effective erosion control technique that prevents the transport of sediment. The following provisions shall be documented to the CPUC and the Alameda County Water District. <ul style="list-style-type: none"> ▪ The Storm Water Pollution Prevention Plan (SWPPP) shall be designed specifically for the hydrologic setting of the Proposed Project, which includes upland slopes, tributary creeks, and larger streams. ▪ The staging of construction materials, equipment, and excavation spoils will be performed at least 100 feet outside of drainage channels or tributaries ▪ Where tower or substation construction activities occur near a creek or channel, sediment containment methods shall be performed at least 100 feet from the channel ▪ Upon completion of construction activities, excavated soil shall be replaced and graded to match the surroundings ▪ Surplus soil shall be transported from the site and disposed of appropriately. 	All Proposed and Alternative construction sites	Review construction plans, monitor construction	Compliance with Best Management Practices, SWPPP, and ECP. Permits issued; inspections during construction show no significant impacts. Construction-related sediment is prevented from reaching drainage network.	USACOE CDFG ACFCWCD (Zone 7) CCCFCDD SWRCB SF BAY RWQCB CPUC, ACWCD

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Construction of Dublin Substation and erosion and sediment transport impacts. (Class II)	H-2 (See above). Sediment containment methods shall occur at least 100 ft from channel	Dublin Substation, South Dublin Substation Alternative	Review construction plans; monitor construction	Compliance with Best Management Practices, SWPPP, and ECP. Permits issued; inspections during construction show no significant impacts. Construction-related sediment is prevented from reaching drainage network.	USACOE CDFG ACFCWCD (Zone 7) CCCFCO SWRCB SF BAY RWQCB CPUC ACWD
Construction-related surface water contamination. (Class II)	H-3: The training program prescribed in Applicant Proposed Measure 8.2 shall not only describe general environmental concerns and procedures, but shall emphasize site-specific physical conditions to improve hazard prevention. For example, all flow paths to the nearest water bodies should be identified to workers and where hazardous materials may specifically impact the site shall be identified. This provision shall be documented to the CPUC and the Alameda County Water District. H-4: All refueling, lubrication, and other machinery or vehicular maintenance activities shall be performed at least 100 feet from any tributary or stream channel, or slough. Excess concrete shall be removed from tower foundations.	All Proposed and Alternative construction sites	Review construction plans; monitor construction	Compliance with Best Management Practices. Permits issued; inspections during construction show no significant impacts. Spills effectively cleaned up.	USACOE CDFG ACFCWCD (Zone 7) CCCFCO SWRCB SF BAY RWQCB CPUC ACWD
Substation upgrade and impacts to hydrology, erosion, and sediment transport. (Class II)	H-2 and H-3 (see above).	Vineyard Substation	Review construction plans; monitor construction	Compliance with Best Management Practices, SWPPP, and ECP. Permits issued; inspections during construction show no significant impacts. Construction-related sediment is prevented from reaching drainage network.	USACOE CDFG ACFCWCD (Zone 7) CCCFCO SWRCB SF BAY RWQCB CPUC ACWD

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Hydrology, water quality, and groundwater impacts caused by modifications at Tesla Substation. (Class II)	H-2 and H-3 (See above).	Tesla Substation	Review construction plans; monitor construction	Compliance with Best Management Practices. Permits issued; inspections during construction show no significant impacts. Spills effectively cleaned up.	USACOE CDFG ACFCWCD (Zone 7) CCCFCD SWRCB SF BAY RWQCB CPUC ACWD
Potential soil and groundwater contamination hazard due to Phase 2 proximity to BFI Altamont Landfill. (Class II)	H-2, H-3 and H-4 (See above).	Phase 2 Proposed Route, adjacent to BFI Landfill Area	Results of soil and groundwater tests shall be reviewed by RWQCB prior to construction, review remediation and clean-up operations if necessary	Compliance with agency determined soil and groundwater quality standards I	USACOE CDFG ACFCWCD (Zone 7) CCCFCD SWRCB SF BAY RWQCB CPUC ACWD
Groundwater quality impacts and construction of tower foundations. (Class II)	H-2, H-3 and H-4 (See above).	All Proposed and Alternative construction sites	Review construction plans; monitor construction	Compliance with Best Management Practices. Permits issued; inspections during construction show no significant impacts. Spills effectively cleaned up.	USACOE CDFG ASFCWCD (Zone 7) CCCFCD SWRCB SF BAY RWQCB CPUC ACWD
Dublin Substation construction and related surface water quality and groundwater quality impacts. (Class II)	H-2, H-3 and H-4 (See above).	Dublin Substation, South Dublin Substation Alternative	Review construction plans; monitor construction	Compliance with Best Management Practices. Permits issued; inspections during construction show no significant impacts. Spills effectively cleaned up.	USACOE CDFG ACFCWCD (Zone 7) CCCFCD SWRCB SF BAY RWQCB CPUC ACWD

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Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Construction of underground transmission line and impacts to surface water hydrology and quality. (Class II)	H-5: The staging of underground trench related construction materials, equipment, and excavation spoils will occur at least 100 feet outside of tributaries, creeks, or drainage channels. H-2, H-3, and H-4 (See above).	All Proposed and Alternative underground transmission line routes.	Review construction plans; monitor construction	Compliance with agency determined soil and groundwater quality standards. Compliance with approved construction plans and procedures. No significant erosion, sediment transport, or contaminants reach stream network.	USACOE CDFG ACFCWCD (Zone 7) CCCFCO SWRCB SF BAY RWQCB CPUC ACWD
Construction of underground transmission line and impacts to groundwater hydrology. (Class II)	H-6: Groundwater levels along the underground transmission line route shall be tested by drilling pilot borings. The location, distribution, or frequency of such tests shall be determined to give adequate representation of the conditions along the underground line. For example, along the route south of Arroyo Valle, tests could be conducted at four locations at 500-foot intervals. North of Arroyo Valle, one test could occur between the creek and the Vineyard Substation. In the other project areas (Dublin, North Livermore) suitable testing locations may also be determined (for example at 1,000 or 1,500 ft intervals). Locations where groundwater depth is less than 8 ft deep shall be identified prior to trenching activities and avoided, where possible, for the underground route. Avoidance is especially recommended where shallow groundwater flow direction is not parallel to the orientation of the underground line. Where avoidance is not possible, PG&E Co. shall consider construction in a shallower trench, depending upon structural requirements of the underground method and other practical concerns. PG&E Co. shall document results of test drilling in a letter report to the CPUC at least 30 days before construction starts and shall propose specific means to minimize the impact on groundwater if shallow groundwater is found. These measures must be approved by the CPUC prior to the start of construction of the underground segment.	All Proposed and Alternative underground transmission line routes.	Applicant shall document results of test drilling in a letter report to CPUC, shall specify means to minimize groundwater impact. Measures to be approved by CPUC prior to construction.	Groundwater depth along underground route is below underground duct bank trench.	SWRCB SF BAY RWQCB CPUC
Substation upgrade and impacts to surface water and groundwater quality. (Class II)	H-2, H-3, H-4, and H-6 (See above).	Vineyard Substation	Review construction plans; monitor construction	Compliance with Best Management Practices, SWPPP, and ECP. Permits issued; inspections during construction show no significant impacts. Construction-related sediment is prevented from reaching drainage network.	USACOE CDFG ACFCWCD (Zone 7) CCCFCO SWRCB SF BAY RWQCB CPUC ACWD

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
North Livermore Substation and construction-related water quality and groundwater quality impacts. (Class II)	H-2, H-3, H-4 and H-6 (See above).	North Livermore Substation, Raymond Road Alternative, Hartman Road Alternative	Review construction plans; monitor construction	Compliance with Best Management Practices. Permits issued; inspections during construction show no significant impacts. Spills effectively cleaned up.	USACOE CDFG ACFCWCD (Zone 7) CCCFCD SWRCB SF BAY RWQCB CPUC ACWD
Horizontal dry-boring beneath Arroyo Valle. (Class II)	H-7: A cross-sectional channel survey will be conducted across the bed of Arroyo Valle, above the placement of the underground line, prior to and following the dry boring process. The applicant shall contact Zone 7's Flood Control Engineering Department to record and review original channel conditions and subsequent surveys, as well as, to receive encroachment permits. The final depth of the horizontal dry drills under the two designated arroyos shall be set so that the waterways now and in the future are not impacted and that possible future channel bed improvements are not precluded. Subsequently, the Applicant shall repeat this cross-sectional survey once every five years, or following a 30-year discharge event on the stream (whichever occurs first), and report the results of this monitoring effort to the Zone 7 Water District. If streambed erosion occurs such that the steel casings are emergent, the Corps and Zone 7 shall be notified immediately.	Arroyo Valle crossing	Applicant reports results of surveys and monitoring to Zone 7	Significant channel erosion that threatens to expose steel casings of underground line is brought to the attention of Zone 7 officials.	ACFCWCD (Zone 7) CPUC ACWD
Operational impacts to surface water and groundwater quality at substation. (Class II)	H-2, H-3 and H-4 (See above). H-8: A spill prevention containment and countermeasure (SPCC) pond will be designed to collect all runoff from the substation (Vineyard, Dublin, San Ramon, North Livermore, Hartman Rd., or Tesla), including the proposed modifications. Surface drains and subsurface piping will convey runoff to the lined on-site SPCC pond. Water held in the SPCC pond shall be tested for contaminant levels prior to its release. Released water from the SPCC pond should pass through an oil/water separator. If contaminated water is allowed to evaporate on-site in the pond, then the pond lining shall be inspected and cleaned according to standard procedure prior to subsequent runoff events. SPCC ponds shall be designed specifically for site runoff conditions and how discharge enters receiving creeks or drainage channels.	Vineyard, Dublin, San Ramon, Hartman Rd., North Livermore, Tesla substations	Review (SPCC) construction, operation, and maintenance plan; monitor construction.	Compliance with approved plans. On-site runoff detention system and pond will be sized according to approved Best Management Practices.	SWRCB RWQCB CPUC ACWD
Operational impacts of Dublin Substation to surface water and groundwater quality. (Class II)		Dublin Substation, South Dublin Substation Alternative	Review (SPCC) construction, operation, and maintenance plan; monitor construction.	Compliance with approved plans. On-site runoff detention system and pond will be sized according to approved Best Management Practices.	SWRCB RWQCB CPUC ACWD

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Operational impacts to surface and groundwater quality at North Livermore Substation. (Class I)		North Livermore Substation, Raymond Road Alternative, Hartman Road Alternative	Review (SPCC) construction, operation, and maintenance plan; monitor construction.	Compliance with approved plans. On-site runoff detention system and pond will be sized according to approved Best Management Practices.	SWRCB RWQCB CPUC
Operation impacts to surface water quality and groundwater quality at Tesla Substation. (Class II)		Tesla Substation	Review (SPCC) construction, operation, and maintenance plan; monitor construction.	Compliance with approved plans. On-site runoff detention system and pond will be sized according to approved Best Management Practices.	SWRCB RWQCB CPUC
Creek crossing at Dublin Substation. (Class II)	H-9: A site-specific Erosion Control Plan shall be written in coordination with the design and construction of the creek crossing near the Proposed Dublin Substation. This plan shall outline techniques and methods to reduce immediate erosional impacts to the stream's banks and bed during the construction process. Longer term considerations about preserving creek stability and channel form shall also be considered as part of the design process for this creek crossing. The site-specific erosion control plan and the design of the crossing shall be approved by the relevant local jurisdiction (Alameda County Flood Control and Water Conservation District, Zone 7 or the Contra Costa County Flood Control District).	Dublin Substation, South Dublin Substation Alternative	Review Erosion Control Plan, construction plans, monitor construction.	Preservation of channel form and creek stability	ACFCWCD (Zone 7) CCCFCDD
Increased runoff and channel erosion due to operation of Dublin Substation. (Class I)	H-10: Mitigation Measure H-10 directs a more thorough hydrologic and geomorphic analysis of the Proposed Dublin Substation and creek crossing and an evaluation of the magnitude of potential increases in runoff and channel erosion in the adjacent tributary channel. Analytical methods including hydrologic, hydraulic, and sediment transport modeling which are acceptable to the Contra Costa County Flood Control District shall be utilized to assess the significance of the substation on the 5, 10, 25, and 100-year runoff events. This site-specific information should then be used to evaluate, and modify if needed, the design of the substation, the on-site storm basin, and the creek crossing. If the analysis suggests potential creek instability, concepts and methods to provide additional stream stability shall be included in the final substation and creek crossing design that shall be reviewed and approved by the Flood Control District and the CPUC (including the analysis required by this Mitigation Measure).	Dublin Substation, South Dublin Substation Alternative	Applicant shall report results of hydrologic analysis to local jurisdictions and indicate how Proposed Substation will alter runoff and erosion conditions in adjacent tributary.	Stormflow peaks are not significantly increased in creek. Creek is not further destabilized due to increased runoff.	CCCFCDD
Groundwater hydrology impacts due to operation of P2 Route. (Class II)	H-11: Several groundwater test borings shall be made between Mileposts B-11 and B-13 of the P2 Route. PG&E Co. shall document results of test drilling in a letter report to the CPUC and shall propose specific means to minimize the impact on groundwater if shallow groundwater is found. These measures must be approved by the CPUC prior to the start of construction of the underground segment. Test borings should be focused towards the alluvial fan/plain geomorphic areas and are not required on the steeper hillslope zones along the P2 Route. Groundwater depths along the P2 Route should also be sampled within the preferential flow pathways that lead to the Springtown Alkali Sink (Figure C.6-3). Groundwater depths shall be evaluated during winter/spring seasons when recharge to the Springtown Alkali Sink is most critical.	Along P2 Route between Mileposts B-11 and B-13	Applicant shall document results of test drilling in a letter report to CPUC, shall specify means to minimize groundwater impact. Measures to be approved by CPUC prior to construction.	Groundwater depth along underground route is below underground duct bank trench.	SWRCB SF BAY RWQCB CPUC

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Horizontal dry boring of Arroyo Las Positas. (Class II)	H-12: A cross-sectional channel survey will be conducted across the bed of Arroyo Las Positas above the underground line prior to and following the dry boring process. The applicant shall contact Zone 7's Flood Control Engineering Department to record and review original channel conditions and subsequent surveys, as well as, to receive encroachment permits. The final depth of the horizontal dry drills under the two designated arroyos shall be set so that the waterways now and in the future are not impacted and that possible future channel bed improvements are not precluded. Subsequently, the Applicant shall repeat this cross-sectional survey once every five years, or following a 30-year discharge event on the stream (whichever occurs first), and report the results of this monitoring effort to the Zone 7 water agency. If streambed erosion occurs such that the steel casings are emergent, agents from the USACOE and Zone 7 shall be contacted.	Arroyo Las Positas at Kitty Hawk Rd. bridge	Applicant reports results of surveys and monitoring to Zone 7 Excavated spoils from dry-boring are removed by truck.	Significant channel erosion that threatens to expose steel casings of underground line is brought to the attention of Zone 7 officials. Excavated spoils from dry-boring would not enter creek.	ACFCWCD (Zone 7) CPUC SWRCB RWQCB ACWD
Flood impacts at Switching Station Site 2. (Class II)	H-13: Prior to construction, the applicant shall check grading plans and surveys of the proposed site to verify that the ground surface of the proposed substation shall be at least at elevation 10 feet above NGVD (Flood Zone B, 1 ft above the FEMA 100-year floodplain). This research shall be provided to the CPUC in the form of a letter report prior to the start of substation construction. If any portion of the site is below elevation 10 feet, it shall be raised.	Switching Station Site 2	Applicant shall research and report grading plans and surveys of site.	Ensure substation elevation is above 10 feet.	CPUC
LAND USE AND RECREATION					
Construction noise, dust, and odor would adversely affect neighboring residents. (Class III)	L-1: PG&E Co. or its construction contractor shall provide advance notice, between two and four weeks prior to construction, by mail to all residents and property owners within 300 feet of the construction right-of-way. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. PG&E Co. shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur.	Various locations in project area	Mailing list and copies of notification letters submitted to Lead Agency.	Inclusion of Lead Agency contact on notification, with follow-up by Lead Agency in response to complaints.	CPUC
Construction activities would disrupt and displace cattle grazing from active construction areas. (Class III)	L-2: PG&E Co. shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. PG&E Co. shall also establish a toll-free telephone number for receiving questions or complaints during construction and develop procedures for promptly responding to callers and recording the disposition of calls (procedures to be approved by the CPUC). Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure L-1 .	Various locations in project area	Mailing list and copies of notification letters submitted to Lead Agency.	Inclusion of Lead Agency contact on notification, with follow-up by Lead Agency in response to complaints.	CPUC
Depending on timing, construction could interfere with grape harvesting south of Vineyard Avenue. (Class II)	L-5: Construction of the underground alignment along Vineyard Avenue shall be timed so as to avoid the fall grape harvest, potentially occurring between mid-August and the end of October.	Vineyards south of Vineyard Avenue in Livermore and Pleasanton.	Certificate of Public Convenience and Necessity (CPCN) approval by Lead Agency shall be conditioned to preclude construction south of Vineyard Avenue during grape harvest.	Construction during harvest avoided.	CPUC

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>The overhead alignment through Sycamore Grove Regional Park would be visually incompatible with recreational use of the park and would conflict with conservation easements held by a regional land trust. (Class II)</p>	<p>L-6: To minimize the footprint of the support towers inside the park, tubular steel support poles shall be used, rather than lattice towers.</p> <p>L-7: PG&E Co. shall remove the existing 60-kV transmission line that crosses the park on the same approximate alignment as the S1 alignment. If this isn't feasible, the 230-kV alignment through the park shall be placed underground or the tap point and transmission line shall be located in an alternative alignment outside the park.</p> <p>L-8: To compensate for the conflict with the conservation easement, PG&E Co. shall make a contribution to the South Livermore Valley Agricultural Land Trust equal to the cost of purchasing conservation easements elsewhere in the South Livermore area. The required acreage of easements to be purchased shall be determined by multiplying the distance of land under conservation easement traversed by the transmission line multiplied by 200 feet.</p>	<p>Sycamore Grove Regional Park</p>	<p>Lead Agency approval to require tubular support towers in park and removal of existing 60-kV line, undergrounding through park, or realignment out of the park. Contribution to SLVALT routed through Lead Agency.</p>	<p>Erection of tubular towers and removal of existing 60-kV line, undergrounding through park, or realignment out of the park. Verification of contribution by SLVALT.</p>	<p>CPUC and SLVALT</p>
<p>The overhead/under ground transition station east of Highway 84 would remove one-half acre of Farmland of Statewide Importance from potential agricultural production. (Class II)</p>	<p>L-9: PG&E Co. shall make a contribution to the South Livermore Valley Agricultural Land Trust sufficient to allow the Trust to purchase a conservation easement on one acre of vineyard or comparable agricultural land in the South Livermore area.</p>	<p>Southeast corner of Highway 84 and Foley Road</p>	<p>Contribution to SLVALT routed through Lead Agency.</p>	<p>Verification of contribution by SLVALT.</p>	<p>CPUC and SLVALT</p>
<p>The overhead/under ground transition station east of Highway 84 and the adjacent overhead transmission line would be inconsistent with Alameda County Scenic Route policies.</p>	<p>L-10: The conversion of the Alternative S1 transmission line to an underground segment shall be located further away from Highway 84 so that the transition station and the overhead lines leading to it are not so conspicuous from the scenic route.</p>	<p>Southeast corner of Highway 84 and Foley Road</p>	<p>Lead Agency approval to require relocation of transmission facilities away from Scenic Route corridor.</p>	<p>Relocation of transmission facilities away from Scenic Route corridor.</p>	<p>CPUC</p>

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
(Class II) Transmission lines and support towers would penetrate airspace requiring referral to Federal Aviation Administration for Aeronautical Study.	L-11: If Alternative S1 is approved by the CPUC, PG&E Co. shall immediately initiate an FAA Aeronautical Study by submitting FAA Form 7460-1 to the Western Pacific Region of the FAA. The Applicant shall comply with any requirements identified by the FAA, including those pertaining to the marking and lighting of transmission line support towers. The CPUC shall also submit the project to the Alameda County ALUC for review, and shall comply with the recommendations of that agency, including disapproval of the alternative if the ALUC determines that the alternative would create an obstruction to air navigation and no suitable mitigation is feasible.	Stanley Boulevard along Alternative S1	Verify FAA concurrence with Alternative S1.	Alternative S1 would not constitute a flight hazard.	FAA, CPUC
(Class II) Construction noise, dust, and air emissions could conflict with use of a planned elementary school on Vineyard Avenue.	L-12: If the planned elementary school is occupied prior to or during construction of the underground transmission line, construction activities within 1,000 feet of the school property's frontage on Vineyard Avenue shall be timed to occur during school breaks, such as summer vacation, Christmas break, and Spring break.	Vineyard Avenue (City of Pleasanton)	Certificate of Public Convenience and Necessity (CPCN) approval by Lead Agency shall be conditioned to preclude construction within 1,000 feet of school while it is in session.	Construction adjacent to school avoided while school is in session	CPUC
(Class II) Old Vineyard Avenue Construction.	L-12a: If the S2 or S4 Alternatives are selected and if Old Vineyard Avenue is identified as the selected route, the transmission line shall be located as follows: (1) West from Highway 84, the underground route would be located in the firebreak road south of Vineyard, past Isabel Avenue to the western boundary of the Ruby Hill property (where the fire station is located). (2) West from the fire station, where the road narrows and New Vineyard diverges towards the northwest, the transmission line would be installed within the roadway. Where New and Old Vineyard converge and the road becomes a divided roadway, the transmission line would be installed within the roadway (with the final location to be determined in consultation with the City of Pleasanton as required in Mitigation Measure S-1).	Alternatives along Old Vineyard Avenue in Pleasanton.	Location of route if Old Vineyard Avenue is selected.	Location of route if Old Vineyard Avenue is selected.	City of Pleasanton, CPUC
(Class II) Visual Intrusion on Ruby Hill Residents.	L-13: Implementation of Mitigation Measure V-2 (below) would reduce this impact to a less than significant level.	S4 Alternative, overhead portion	CPUC to verify project redesign prior to construction and implementation following construction.	Visibility of transmission structures will be significantly reduced as viewed from Sycamore Grove Regional Park and county-designated scenic route 84.	CPUC

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
The substation would be incompatible with the planned surrounding office, commercial, and residential land uses. (Class II)	L-14: If the D1 Alternative is approved by the CPUC, the exact location, exterior design, and landscaping plan for the Alternative D1 substation shall be developed in consultation with the City of Dublin and PG&E Co. shall make all reasonable efforts to comply with the City's design standards (as required by 6.0. 131-D). Potential treatments may include enclosure by attractive façade walls and screening landscaping or surrounding the substation with commercial buildings.	Alternative D1 Substation Site (City of Dublin)	Letter submitted by City of Dublin Planning Department to Lead Agency following review of final design plans.	Substation design meets approval of City of Dublin.	City of Dublin, CPUC
The overhead alignment would pass adjacent to a planned community park and the alignment for a planned recreational trail, and would be visually incompatible with these uses. (Class II)	L-15: PG&E Co. shall consult with the City of San Ramon prior to finalizing project design to ensure that the final location of support towers minimizes impacts on the planned community park and recreation trail.	West of Alcosta Boulevard	Letter submitted by City of San Ramon planning department to Lead Agency following review of final alignment plans.	San Ramon approval of D2 alignment in vicinity of park and trail.	San Ramon, CPUC
Potential conflicts with landowners. (Class II)	L-15a: If the D1 Alternative is selected, PG&E Co. shall address the land use concerns of private landowners (including Kiewit Construction Company) by modifying final design to minimize the land use impacts of the route on owners' continued use of lands crossed by transmission lines (e.g., by adjusting tower height or specific tower location). Such design modifications, if any, shall be submitted to the CPUC for review prior to the start of construction, as well as documentation regarding the potential environmental impacts of the proposed change.	D1 Alternative	Address landowner concerns and CPUC approval of design modifications, if any.	Minimize potential conflicts with private landowners.	CPUC
The North Livermore Substation would conflict with North Livermore Specific Plan policies establishing the May School Road Greenbelt. (Class II)	L-16: The North Livermore substation shall be relocated at least 500 feet to the north, outside of the May School Road Greenbelt, and shall be screened along the southern exposure by sufficient landscaping to render it inconspicuous as a manmade element, as viewed from the adjacent greenbelt. As required by 6.0. 131-D, PG&E Co. shall consult with the relevant local jurisdiction and make every reasonable effort to comply with local design standards. See also Mitigation Measure L-18 regarding landscaping.	North Livermore Substation Site	Lead Agency approval to require relocation of substation outside greenbelt. Letter submitted by City of Livermore Planning Department to Lead Agency following review and approval of substation landscaping plan.	Substation located outside greenbelt. Landscaping plan meets City of Livermore approval.	City of Livermore, CPUC

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>The North Livermore Substation would conflict with North Livermore Specific Plan Rural Area Standards & Design Guidelines Policy 7.6.2(b), which calls for development of a regional multi-use trail corridor. (Class II)</p>	<p>L-17: PG&E Co. shall deed a 25-foot-wide easement across the North Livermore substation site frontage to the relevant entity for dedication as a multi-use trail corridor.</p>	<p>North Livermore Substation Site</p>	<p>Copy of easement agreement submitted to Lead Agency. Lead Agency approval to require implementation of Variant P-2.</p>	<p>Easement agreement granting Alameda County trail corridor across substation property. North Livermore alignment segments placed underground.</p>	<p>Alameda County, CPUC</p>
<p>The North Livermore Substation would conflict with North Livermore General Plan Amendment Resource Protection Policy 19, which requires the use of drought-tolerant, native plant species. (Class II)</p>	<p>L-18: PG&E Co. shall landscape the North Livermore substation with drought-tolerant, native plant species. Pursuant to 6.0 131-D, PG&E Co. shall consult with the relevant jurisdiction and make every reasonable effort to comply with local design standards.</p>	<p>North Livermore Substation Site</p>	<p>Letter submitted by City of Livermore Planning Department to Lead Agency following review and approval of substation landscaping plan.</p>	<p>Landscaping plan meets City of Livermore approval.</p>	<p>City of Livermore, CPUC</p>

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Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>The Alternative L1 substation would conflict with North Livermore Specific Plan Urban Area Community Design Policy 7.13.6, which prohibits the use of low-pressure sodium lights. (Class II)</p>	<p>L-19: Consistent with the requirements of 60.13D, PG&E Co. shall install a lighting type acceptable to the relevant jurisdiction for the security lighting around the Alternative L1 substation.</p>	<p>Alternative L1 Substation Site (North Livermore)</p>	<p>Letter submitted by City of Livermore Planning Department to Lead Agency following review and approval of substation lighting plan.</p>	<p>Lighting plan meets City of Livermore approval.</p>	<p>City of Livermore, CPUC</p>
<p>The overhead section of the Alternative L2 transmission line north of Stanley Boulevard would exceed the height limit established in the Livermore Zoning Ordinance for all structures within 5,000 feet of an airport runway. (Class II)</p>	<p>L-20: If the L2 Alternative is adopted by the CPUC, the conversion to underground cable in the L2 alignment shall be relocated approximately 4,000 feet to the south, to just north of Stanley Boulevard, in order to remove the overhead section from the 5,000-foot radius around Livermore Airport.</p>	<p>Alternative L2 alignment segment between Stanley Boulevard and Jack London Boulevard</p>	<p>Lead Agency approval to require relocation of overhead/underground transition more than 5,000 feet from Livermore Airport.</p>	<p>Overhead/underground transition located more than 5,000 feet from Livermore Airport.</p>	<p>CPUC</p>

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
The overhead transmission line would require the removal of existing windmills located in a Wind Resource Area, in conflict with East County Area Plan policies 161 and 162. (Class II)	L-21: PG&E Co. shall pay for the relocation of any displaced windmills located outside its existing easement to a location within the County's designated Wind Resources Area that is acceptable to the affected wind farm operator(s).	Eastern Alameda County Wind Resource Area	Copy of agreement(s) with affected property owner(s) submitted to Lead Agency and compensation routed through Lead Agency.	Property owners satisfactorily compensated.	CPUC
Construction of the Stanislaus Corridor would disturb and possibly interfere with existing land uses along the alignment. (Class II)	L-22: If the Stanislaus Corridor Alternative is adopted by the CPUC, PG&E Co. shall implement Mitigation Measures L-1 and L-2. In addition, PG&E Co. shall coordinate the removal of old towers, and the placement of the new, more widely-spaced towers, and the timing of each activity with the affected property owners to ensure that disruptions to the use of the property are minimized.	South of Tesla Road and adjacent to Cross Road (eastern Alameda County)	Copies of signed agreements between Applicant and affected property owners submitted to Lead Agency.	Mutually acceptable construction schedule on affected properties.	CPUC
New support towers along the Stanislaus Corridor would displace existing productive grape vineyards and deprive their owners of income. (Class II)	L-23: If the Stanislaus Corridor Alternative is adopted by the CPUC, PG&E Co. shall compensate affected vineyard property owners for three seasons of lost income from any displaced vines and shall pay the owners all costs associated with planting replacement vines and cultivating them to productivity. PG&E Co. shall only be responsible for compensation for vines directly displaced by the project, including construction right-of-way and access and continuing operations access.	South of Tesla Road (eastern Alameda County)	Copy of agreement(s) with affected property owner(s) submitted to Lead Agency and compensation routed through Lead Agency.	Property owners satisfactorily compensated.	CPUC
Cumulative construction effects. (Class II)	L-24: PG&E Co shall coordinate with affected agencies and proponents of proposed projects within or adjacent to the selected transmission route to minimize cumulative construction effects and avoid preclusion of other planned land uses to the maximum extent feasible. Said coordination shall take place during the final design and permitting stages of the transmission project and shall include, but not be limited to: <ul style="list-style-type: none"> ▪ Provision of transmission route and construction schedule to affected parties; ▪ Coordination of construction activities with other construction projects; ▪ Coordination of utility disruptions and road or lane closures. 	Various locations in project area.	Coordination with affected agencies.	Minimize cumulative effects of project.	CPUC and affected agencies.

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Transition station proximity to residence. (Class II)	L-25: The route of the easternmost 1,000 feet of the P3 Alternative (as modified in the Final EIR, Section B.5) shall be evaluated by PG&E Co. in conjunction with the adjacent landowners and the transition station shall be relocated to at least 500 feet from any residence, if feasible.	P3 Alternative near Contra Costa-Newark corridor.	PG&E Co. consultation with landowner.	Relocation of underground line further away from residence.	CPUC
PUBLIC SAFETY, HEALTH AND NUISANCE					
Radio and Television Interference. (Class II)	PS-1: As part of the design and construction process, the Applicant shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.	All overhead transmission line segments.	Submit engineering report for selected conductor and analysis of surface gradient.	Engineering report shall present analysis of surface gradient and demonstrate compliance to IEEE Radio Noise Guide.	CPUC
Electric and magnetic Fields. (Class II)	No-cost, low-cost field reduction measures determined by PG&E Co.	Entire transmission line route	Document no-cost, low-cost measures incorporated in line design.	Report documents amount of field reduction obtained through mitigation measures.	CPUC
SOCIOECONOMICS AND PUBLIC SERVICES					
Underground transmission line installation. (Class II)	S-1: PG&E Co. shall consult with local jurisdictions and agencies responsible for all underground utilities in order to define the exact placement of the underground transmission line. In addition, PG&E Co. shall evaluate the potential for the underground transmission line to increase corrosion on existing pipelines. If this potential is determined to exist, PG&E Co. shall be responsible for installation of the required cathodic protection systems that would eliminate this risk. A letter documenting these consultations and their results, including concurrence by the affected jurisdiction(s) and other companies, shall be provided to the CPUC prior to the start of construction.	All proposed and alternative underground segments.	CPUC to review PG&E letter documenting coordination.	Existing pipelines and other underground infrastructure is not damaged.	CPUC
The substation facilities and potential aboveground distribution lines would conflict with the FCC guidelines on height clearance and radio frequency noise. (Class II)	S-2: The potential property exchange between the property owners and FCC described in the North Livermore Specific Plan and Draft EIR must occur, or the FCC property is otherwise changed to accommodate the substation. The substation shall be designed with underground distribution as well as feeder lines. In addition, PG&E Co. would need to reduce the size of or eliminate the substation microwave tower in order to comply with the FCC interference criteria described in EIR Section C.10.1.3.	North Livermore	PG&E Co. shall provide documentation regarding discussions with FCC and resolution recommended to CPUC for CPUC review.	FCC facility operates with out disturbance from PG&E Co. facilities	FCC

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Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
TRANSPORTATION AND TRAFFIC					
<p>Construction of the Proposed Project would require lane closures on these roadways. (Class II)</p> <p>Construction storage space and parking. (Class II)</p>	<p>T-1: Prior to the start of construction, PG&E Co. shall submit traffic control plans to the City of Pleasanton Public Works Department as part of the required traffic encroachment permits. Documentation of the approval of these plans and issuance of encroachment permits shall be provided to the CPUC prior to the start of construction on the underground portion of the project.</p> <p>T-2: PG&E Co. shall restrict all necessary lane closures or obstructions on major roadways to off-peak period in urbanized areas to mitigate traffic congestion and delays that would be caused by lane closures during construction and by exploratory excavations. Lane closures must not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by the affected public agency in the encroachment permit.</p> <p>T-3: PG&E Co. shall develop and implement detailed Traffic Control Plans (TCPs) for the entire route at all locations where construction activities would interact with the existing transportation system. Input and approval from the responsible public agencies shall be obtained; copies of approval letters from each jurisdiction must be provided to the CPUC prior to the start of construction within that jurisdiction. The TCP shall define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH).</p>	<p>Various locations in project area.</p>	<p>Review documentation of PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.</p>	<p>If traffic flows are generally maintained without severe congestion.</p>	<p>CPUC, City of Pleasanton Public Works Dept. and Alameda County.</p>
<p>Restricted Access to Properties. (Class II)</p> <p>L-1 and L-2 (See above).</p>	<p>T-5: In conjunction with Mitigation Measure L-1, PG&E Co. shall notify affected parties of potential obstructions and make provisions for alternative access. Alternative access provisions and parking will be provided by PG&E Co. where feasible, with guide signs to inform the public. PG&E Co. shall give written notification to all landowners, tenants, business operators, and residents along the right-of-way of the construction schedule, and shall explain the exact location and duration of the transmission line and construction activities within each street (e.g., which lanes will be blocked, at what times of day, and on what dates). PG&E Co. shall identify any potential obstructions to their access, and shall make alternative access provisions. The written notification shall include a toll-free telephone number for PG&E Co.'s public liaison (Mitigation Measure L-2) and shall encourage affected parties to discuss their concerns with PG&E Co. prior to the start of construction so individual problems and solutions can be identified. Alternative access provisions shall include PG&E Co. provided signage and alternate parking as provided and approved by local agencies.</p>	<p>Along the ROW, and all locations where access to adjacent land use is blocked.</p>	<p>Review documentation identifying land uses, and consultation efforts of PG&E Co. with all affected owners and tenants.</p>	<p>If access and parking needs of the adjacent land uses are met.</p>	<p>CPUC and local jurisdictions.</p>

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Trench excavation would temporarily block access to residential driveways. (Class II)	T-6: PG&E Co. shall schedule construction on or adjacent to sensitive lands (e.g. hospitals, schools, residences, major employees, recreational areas) so that at least one access driveway is left unblocked during all business hours or hours of use. This scheduling shall be provided by PG&E Co. to the landowners or tenants so they can inform residents or customers. If access problems can be avoided by scheduling night construction in non-residential areas, this option should be considered. T-5 (see above).	Along underground trench alignment in Pleasanton.	Construction monitor (funded by PG&E Co.) to inspect construction site(s) weekly, with monthly inspection report filed with Lead Agency.	Field verification of compliance and lack of complaints by residents.	City of Pleasanton or CPUC
Construction storage space and parking. (Class II)	T-7: PG&E Co. shall provide alternative pedestrian and bicycle access routes to avoid obstruction to pedestrian and bicycle circulation. Where existing pedestrian circulation routes or bike trails would be obstructed by transmission line construction, alternative access routes shall be developed and signed/marked appropriately, in conjunction with local agencies.	All locations where a designated public pedestrian route is obstructed (sidewalks, recreational paths, etc.).	Review documentation of PG&E Co. coordination with affected public agencies; and PG&E Co. conformance to all required conditions.	If construction activities do not totally block or unreasonably impair pedestrian movements or safety, as determined by the affected public agencies.	CPUC and local jurisdictions.
Emergency response vehicles could be blocked or impeded by construction activities. (Class II)	T-8: PG&E Co. shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E Co. of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans (T-3) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.	All locations.	Review PG&E Co. notification and coordination with emergency service providers. Review PG&E Co. demonstration of capability to provide immediate access across excavations, subject to approval by affected police, medical, and fire agencies.	If the construction activities do not totally preclude access to any area emergency vehicles.	CPUC and affected emergency service providers (fire, police, sheriff, CHP and ambulance services).
Disruption to scheduled public and school bus service. (Class II)	T-9: PG&E Co. shall coordinate with the Alameda Unified School District, the Pleasanton Unified School District, and the Livermore Valley Joint Unified School District at least one month prior to construction to coordinate construction activities adjacent to school bus stops. If necessary school bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. PG&E Co. will also consult with the Livermore Amador Valley Transit Authority at least one month prior to construction to reduce potential interruptions to transit service in the project area.	All locations where a designated school or public bus route is obstructed.	Review documentation of PG&E Co. coordination with affected public agencies; and PG&E Co. conformance to all required conditions.	If construction activities do not totally block or unreasonably impair public and school bus circulation, as determined by the affected public agencies.	CPUC and affected bus service providers.

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
Conflict with Caltrans construction. (Class II)	T-10: In order to avoid conflict with Caltrans ongoing Isabel Parkway/SR 84 construction plans overhead transmission lines should be installed along the west side of the roadway clear of the proposed six lane arterial right-of-way. PG&E Co. would need to coordinate issues of construction compatibility with Caltrans as part of the encroachment permit process.	Along Isabel Parkway right-of-way	Review project plans to verify pole locations	Caltrans activities will not be affected by project.	CPUC, Caltrans
Potential impacts to UP railroad. (Class II)	T-11: PG&E Co. shall coordinate with UPRR to obtain the necessary railroad encroachment easements. PG&E Co. would need to coordinate issues of transmission line construction activities with rail operations with Union Pacific and ACE Commuter Rail and other rail operators as applicable. PG&E Co. shall submit documentation of coordination with rail operators to the CPUC prior to construction.	Pleasanton Along Stanley Boulevard.	CPUC to review PG&E Co. documentation of coordination.	Railroad use is not affected by project construction.	CPUC
Concurrent construction periods between the project and New Vineyard Avenue route. (Class II)	T-12: If the S2 or S4 Alternatives are selected in conjunction with the New Vineyard Avenue route, PG&E Co. shall coordinate with the City of Pleasanton regarding the status of New Vineyard construction. If PG&E Co. believes that construction of New Vineyard is not sufficiently advanced to allow timely installation of the underground transmission line, PG&E Co. shall present documentation of this finding to the CPUC Energy Division, supported by documentation from the City, at least 60 days before the start of construction. If the CPUC Energy Division concurs that road construction could delay installation of the transmission line, the Old Vineyard Avenue shall be utilized instead, as envisioned in the Draft EIR (and as defined and conditioned in Final EIR Section C.2.3).	New Vineyard Avenue in Pleasanton	PG&E Co. to document status of New Vineyard construction to CPUC for review.	Use of Old Vineyard if New Vineyard construction is not sufficiently advanced.	CPUC, City of Pleasanton
Construction compatibility with Caltrans and the City of Dublin. (Class II)	T-13: In order to avoid conflict with Caltrans and City of Dublin activities related to the I-580 interchange projects, and with Caltrans on the possible future widening of I-580, PG&E Co. shall coordinate issues of construction compatibility with Caltrans and the City of Dublin as part of the encroachment permit process.	I-580 in Dublin	Coordination with Caltrans and City of Dublin.	Caltrans and City of Dublin activities will not be affected by project.	CalTrans, City of Dublin, CPUC
Construction compatibility with Caltrans. (Class II)	T-14: In order to avoid conflict with Caltrans ongoing Isabel Avenue/I-580 Parkway and future BART station construction plans, PG&E Co. shall coordinate issues of construction compatibility with Caltrans as part of the encroachment permit process.	Isabel Avenue/I-580 Parkway in Livermore	Review project plans to verify construction compatibility.	Caltrans will not be affected by project.	CPUC, CalTrans

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
VISUAL RESOURCES					
Adverse visual impact to a valued landscape resulting from the placement of new structures of the Alternative S1/S2/L2 common segment near Sycamore Grove Trail in Sycamore Grove Regional Park and near Route 84 county-designated scenic route. (Class II)	<p>V-1: If the S1, S2, or L2 Alternatives are selected, the underground portion of these routes should be extended southeast so the overhead/underground transition station is located immediately adjacent to the tap point in the Tesla-Newark corridor.</p>	S1/S2/L2 common segment within Sycamore Grove Regional Park and near Route 84 at Vineyard.	CPUC to verify project redesign prior to construction and implementation following construction.	Visibility of transmission structures will be significantly reduced as viewed from Sycamore Grove Regional Park and county-designated scenic Route 84.	CPUC
Adverse visual impact resulting from the visibility of the upper portions of the S4 Alternative from the Ruby Hill golf course and residential development. (Class II)	<p>V-2: If Alternative S4 is approved by the CPUC, reduce transmission line structure heights as sufficient to eliminate views of the structures and conductors from the Ruby Hill development. If necessary to accomplish this objective, move the underground transition station further south to reduce the number of aboveground structures. The design to comply with these conditions will be submitted to the CPUC for approval at least 30 days prior to construction start.</p>	S4 Alternative route through the open space immediately west of the Ruby Hill development.	CPUC to verify project redesign prior to construction and implementation following construction.	Visibility of transmission structures will be eliminated as viewed from the Ruby Hill golf course and residential development.	CPUC

Table F-2 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented Prior to Construction

Impact (Class)	Mitigation Measure	Location/ Affected Segment	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
<p>Adverse visual impact on a scenic landscape resulting from the placement of Proposed Project structures across a scenic valley south of Manning Road in North Livermore. (Class II)</p>	<p>V-3: If the proposed transmission line route to the Dublin Substation is selected, the visual impact of the line east of Milepost B14.5 shall be reduced by one of the following methods (the first is preferred):</p> <p>Option A: Install the line underground from the tap to the Contra Costa-Newark line to approximately Milepost B14.5 to eliminate an overhead crossing of the scenic valley and hills visible from Key Viewpoint 13 on Manning Road.</p> <p>Option B: Relocate the overhead portion of the proposed route between Mileposts B13 and B14.5 further south such that the overhead line is not visible from Manning Road in the vicinity of Key Viewpoint 13 (see Figure C.12-15-C).</p>	<p>Proposed Project between approximately Mileposts B13 and B14.5.</p>	<p>CPUC to verify project redesign prior to construction and implementation following construction.</p>	<p>Visibility of transmission structures will be eliminated as viewed from Manning Road east of Carneal Road in North Livermore.</p>	<p>CPUC</p>
<p>Night lighting of the transition station. (Class II)</p>	<p>V-4: All outdoor lighting is to be activated by a switch outside of the fenced facility. The switch is to be accessed by a key and the lights are to be turned on only when emergency work is underway.</p>	<p>All project facilities and substations.</p>	<p>Verify lighting control design prior to construction and its implementation following construction.</p>	<p>Effective if illumination of the facility is visible only under emergency conditions and at no other time.</p>	<p>CPUC</p>

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
AIR QUALITY					
Construction PM ₁₀ levels would violate BAAQMD significance criteria if all of BAAQMD PM ₁₀ control measures are not implemented. (Class II)	A-1: Apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.	All unpaved access roads, parking areas and staging areas at construction sites.	Construction plan; monitor construction activities	PM ₁₀ emissions are reduced, Effectiveness can not be monitored in the field	CPUC and the BAAQMD
	A-2: Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.	All transmission line and substation construction.			
	A-3: Install sandbags or other erosion control measures to prevent silt runoff to public roadways.				
	A-4: Replant vegetation in disturbed areas within 30 days of completion of construction.				
	A-5: Modify the route of the D2 Alternative (as shown in Figure C.2-2) so it connects with the existing San Ramon-Pittsburg 230 kV line approximately one-half mile northeast of the San Ramon Substation.		0.5 miles northeast of the San Ramon Substation	Verify project plans; confirm consistency during construction	Reduction of construction pollutant emissions
Underground construction activities produce elevated levels of emissions compared to construction of overhead lines. (Class II)	A-6: The 230 kV transmission line to the proposed North Livermore Substation shall begin at a tap to the existing Contra Costa-Newark 230kV transmission line at a point due east of the proposed North Livermore Substation. The nearly two-mile long underground route would include approximately one-half mile of line installation across open space, and the remaining 1.5 miles would follow May School Road.	North Livermore Substation to the Contra Costa-Newark line	Verify project plans; confirm consistency during construction	Reduction of construction pollutant emissions	CPUC

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
BIOLOGICAL RESOURCES					
The following measures must also be implemented during construction and are presented in Table F-2 (above): Mitigation Measures B-1a and 1b; B-2a and 2b; B-4; B-5a and 5b; B-6; B-7; B-8; B-9; B-10; B-11; B-12; B-13.					
Direct Mortality and Direct Disturbance to Wildlife. (Class II)	<p>B-3: To reduce direct mortality impacts during construction, construction specifications will include the following conditions:</p> <ul style="list-style-type: none"> ▪ Vehicles will not exceed 10 mph on designated access roads or in the ROW ▪ Litter or other debris that may attract animals will be removed from the project area; organic waste will be stored in enclosed receptacles, removed from the project site daily, and disposed of at a suitable waste facility ▪ No pets will be allowed in the construction area, including access routes and staging areas ▪ Construction crews will be monitored by a qualified biologist approved by the CPUC. ▪ No weapons will be allowed in the project area, including air or conventional firearms, archery equipment, or knives. 	All undeveloped portions of proposed and alternate routes	Biological monitor present; report to be submitted for review within 30 days of construction	No activity outside of designated areas	CDFG, CPUC
Indirect impacts to wildlife from increased human presence and access. (Class II)	<p>B-5c: Specific distances from resources (see Table C.3-20 and updates) will be maintained during construction, maintenance, and overflights. Designated existing roads will be used; if such roads are not present, flagged routes that have been surveyed by a qualified biologist will be used (as in Mitigation Measure B-4).</p> <p>B-5d: Biological monitors as specified by CPUC will be present during construction to verify that no vehicular travel occurs outside flagged areas. These biological monitors will have the authority to terminate construction activities if any adverse effect on special status species is observed or anticipated.</p>	All undeveloped portions of proposed and alternate routes	Specific monitoring/reporting determined by CDFG; documentation also provided to CPUC for review.	Prevent unauthorized access	CDFG, CPUC
CULTURAL RESOURCES					
The following measures must also be implemented during construction and are presented in Table F-2 (above): Mitigation Measures C-1; C-2; C-5.					
Previously unrecorded cultural resources could be discovered during ground disturbing construction operations. (Class II)	<p>C-4: PG&E Co. shall implement archaeological monitoring by a Professional Archaeologist during subsurface construction disturbance at all locations identified in or adjacent with potential for significant buried cultural materials. These locations and their protection boundaries are listed in Table C.4-3, and shall be further defined in the CRTP.</p>	Alternative S1: Vineyard-Isabel Stanley Archaeological monitoring during construction is recommended for CA Ala-475H if it cannot be avoided. Archaeological	CPUC monitor to verify that PG&E archaeologist monitors trenching at designated locations and evaluates and treats any inadvertent discoveries in accordance with the Treatment Plan (See Mitigation Measure C-	Cultural resources within, near and adjacent to construction are not damaged or destroyed during construction. Cultural resources are not	CPUC, relevant jurisdictional agencies including Native American Commission in the case of prehistoric burials.

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
		<p>monitoring during construction is recommended for CA Ala-519H if it cannot be avoided. Transcontinental Railroad grade and a railroad grade feature are crossed by alternative. Archaeological monitoring during construction is recommended if the resource(s) cannot be avoided. Alternative D1: South Dublin Transcontinental Railroad grade is crossed by alternative. Archaeological monitoring during construction is recommended if the resource cannot be avoided. Alternative D2: Pittsburg-San Ramon Reconductoring Prehistoric site CA-CCo-500 and historic era site CCo-502H are</p>	<p>1).</p>	<p>destroyed during subsurface construction; discoveries are treated in accordance with Treatment Plan.</p>	

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
		<p>recorded in or adjacent to the existing corridor. Archaeological monitoring during construction is recommended if the resource cannot be avoided. Other identified cultural resources outside of a park consist of a major Native American trail, the Juan Bautista de Anza National Historic Trail [1776], and the Contra Costa Canal. Archaeological monitoring during construction in the vicinity of the resource(s) is recommended if the resource(s) cannot be avoided. Alternative L2: Hartman Road CA-Ala-519H has been recorded in or adjacent. This site is part of an abandoned railroad bed and does not appear significant.</p>			

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency
		<p>Archaeological monitoring during construction is recommended if the resource cannot be avoided. Transcontinental Railroad grade is crossed by alternative. Archaeological monitoring during construction is recommended if the resource cannot be avoided. Tesla Connection: Proposed Project Two identified cultural resources are crossed by the existing corridor; the Juan Bautista de Anza National Historic Trail [1776] and the Transcontinental Railroad grade. Archaeological monitoring during construction is recommended if the resource cannot be avoided. Tesla Connection:</p>			

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
		Stanislaus Corridor The Juan Bautista de Arza National Historic Trail [1776] is crossed by the existing corridor. Archaeological monitoring during construction is recommended if the resource cannot be avoided.			
HYDROLOGY AND WATER QUALITY					
<p>The following measures must also be implemented during construction and are presented in Table F-2: Mitigation Measure H-2; H-3, H-4; H-6; H-5; H-7, H-8, H-9; H-11.</p>					
Construction of underground transmission line and impacts groundwater quality. (Class II)		All Proposed and Alternative underground transmission line routes.	Applicant shall document results of groundwater contaminant check to CPUC. Applicant shall coordinate with local jurisdiction regarding release of collected groundwater.	Groundwater that is contaminated is treated on-site, collected and removed for off-site treatment. Non contaminated groundwater is released in appropriate manner.	ACWD SWRCB SF BAY RWQCB CPUC
Potential soil and groundwater contamination hazard due to Phase 2 proximity to BFI Altamont Landfill. (Class II)	H-2, H-3 and H-4 (See table F-2 above).	Phase 2 Proposed Route, adjacent to BFI Landfill Area	Results of soil and groundwater tests shall be reviewed by RWQCB prior to construction, review remediation and clean-up operations if necessary.	Compliance with agency determined soil and groundwater quality standards.	USACOE CDFG ACFCWCD (Zone 7) CCCFC SWRCB SF BAY RWQCB CPUC ACWD

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
Hydrology, water quality, and groundwater impacts caused by modifications at Tesla Substation. (Class II)	H-2 and H-3 (See table F-2 above).	Tesla Substation	Review construction plans; monitor construction	Compliance with Best Management Practices. Permits issued; inspections during construction show no significant impacts. Spills effectively cleaned up.	USACOE CDFG ACFCWCD (Zone 7) CCFCFD SWRCB SF BAY RWQCB CPUC ACWD
LAND USE AND RECREATION					
The following measures must also be implemented during construction and are prevented in Table F-2: Mitigation Measures L-1; L-2; L-5; L-12; L-13; L-25.					
Construction activities in Sycamore Grove Regional Park would adversely affect park users in the vicinity of the construction through the generation of noise, dust, and diesel equipment odors. (Class III)		Sycamore Grove Regional Park	Lead Agency to field verify placement of construction barricades and signs.	Placement of barricades and signs verified.	CPUC
NOISE					
Residences in the vicinity of the L1 substation site would be affected by long-term transformer operational noise. (Class II)	N-1: If the Alternative L1 is selected, PG&E Co. shall construct the substation within an earthen landscaped berm, with a precast concrete wall structure that would break the line of sight between the residences and noise sources (fans) as to reduce operational noise by at least 10 dBA at the nearby residential receptor locations.	The L1 Substation Alternative site on Raymond Road	Confirm Construction plan; monitor construction activities to verify their consistency with the measure.	Noise levels are reduced at the receptor locations by at least 10 dB.	CPUC

Table F-3 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Construction

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
<p>Induced currents and shock hazards. (Class II)</p>	<p>PUBLIC SAFETY, HEALTH, AND NUISANCE</p> <p>PS-3: As part of the siting and construction process, the Applicant shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC G095 and the NESC do not have specific requirements for grounding). The Applicant shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, the Applicant shall notify in writing, subject to the review and approval of the CPUC Energy Division, all property owners within and adjacent to the Proposed Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. The Applicant shall respond to and document all complaints received upon request. All unresolved disputes shall be deferred by the Applicant to the Lead Agencies for resolution.</p> <p>The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects, which may require grounding, and guidelines for maintaining the safety of the ROW.</p>	<p>All overhead transmission line segments.</p>	<p>Document criteria for installing grounding and tabulate locations where grounding installed.</p>	<p>Design prevents electric shocks to public.</p>	<p>CPUC</p>
TRANSPORTATION AND TRAFFIC					
<p>The following measures must also be implemented during construction and are presented in Table F-2: Mitigation Measures T-1; T-2; T-3; T-7; T-8; T-9; T-11.</p> <p>Physical damage to roads and sidewalks. (Class II)</p>	<p>T-4: If damage to roads and sidewalks occurs, PG&E Co. will coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/leasehold with the applicable governing agency prior to construction.</p>	<p>Construction access roads & trenched roads in which transmission line is buried.</p>	<p>Review documentation that PG&E Co. obtained permits for construction within each road ROW prior to construction; and that each affected roadway has been satisfactorily restored and/or constructed within 30 days of roadway damage.</p>	<p>Restoration/maintenance of roads to pre-construction conditions as determined by the affected public agency.</p>	<p>CPUC, affected local jurisdictions and Caltrans</p>

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-4 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Operation

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
AIR QUALITY					
Construction PM ₁₀ levels would violate BAAQMD significance criteria if all of BAAQMD PM ₁₀ control measures are not implemented. (Class II)	A-4: Replant vegetation in disturbed areas within 30 days of completion of construction.	All transmission line and substation construction.	Construction plan; monitor construction activities	PM10 emissions are reduced. Effectiveness can not be monitored in the field.	CPUC and the BAAQMD
BIOLOGICAL RESOURCES					
Temporary and permanent loss of wetland plant communities. (Class II)	B-1c: Wetland restoration and creation shall be monitored by a qualified biologist for five years after mitigation site construction to assess progress and identify problems. Remediation actions shall be required if determined necessary by a qualified biologist to ensure the success of the restoration effort.	All wetland habitats in the proposed and alternate routes	Biological monitor present; photodocumentation; report submitted for review and approval within 30 days of construction.	Planting survival rate designated in restoration plan (percent cover, height, species composition).	CDFG, CPUC
HYDROLOGY AND WATER QUALITY					
Horizontal dry-boring beneath Arroyo Valle. (Class II)	H-7: A cross-sectional channel survey will be conducted across the bed of Arroyo Valle, above the placement of the underground line, prior to and following the dry boring process. The applicant shall contact Zone 7's Flood Control Engineering Department to record and review original channel conditions and subsequent surveys, as well as, to receive encroachment permits. The final depth of the horizontal dry drills under the two designated arroyos shall be set so that the waterways now and in the future are not impacted and that possible future channel bed improvements are not precluded. Subsequently, the Applicant shall repeat this cross-sectional survey once every five years, or following a 30-year discharge event on the stream (whichever occurs first), and report the results of this monitoring effort to the Zone 7 Water District. If streambed erosion occurs such that the steel casings are emergent, the Corps and Zone 7 shall be notified immediately.	Arroyo Valle crossing	Applicant reports results of surveys and monitoring to Zone 7	Significant channel erosion that threatens to expose steel casings of underground line is brought to the attention of Zone 7 officials.	ACFCWCD (Zone 7) CPUC

Table F-4 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Operation

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
Horizontal dry boring of Arroyo Las Positas. (Class I)	H-12: A cross-sectional channel survey will be conducted across the bed of Arroyo Las Positas above the underground line prior to and following the dry boring process. The applicant shall contact Zone 7's Flood Control Engineering Department to record and review original channel conditions and subsequent surveys, as well as, to receive encroachment permits. The final depth of the horizontal dry drills under the two designated arroyos shall be set so that the waterways now and in the future are not impacted and that possible future channel bed improvements are not precluded. Subsequently, the Applicant shall repeat this cross-sectional survey once every five years, or following a 30-year discharge event on the stream (whichever occurs first), and report the results of this monitoring effort to the Zone 7 water agency. If streambed erosion occurs such that the steel casings are emergent, agents from the USACOE and Zone 7 shall be contacted.	Arroyo Las Positas at Kitty Hawk Rd. bridge	Applicant reports results of surveys and monitoring to Zone 7.	Significant channel erosion that threatens to expose steel casings of underground line is brought to the attention of Zone 7 officials.	ACFCWCD (Zone 7) CPUC
LAND USE AND RECREATION					
New support towers along the Stanislaus Corridor would displace existing productive grape vineyards and deprive their owners of income. (Class II)	L-23: If the Stanislaus Corridor Alternative is adopted by the CPUC, PG&E Co. shall compensate affected vineyard property owners for three seasons of lost income from any displaced vines and shall pay the owners all costs associated with planting replacement vines and cultivating them to productivity. PG&E Co. shall only be responsible for compensation for vines directly displaced by the project, including construction right-of-way and access and continuing operations access.	South of Tesla Road (eastern Alameda County)	Copy of agreement(s) with affected property owner(s) submitted to Lead Agency and compensation routed through Lead Agency.	Property owners satisfactorily compensated.	CPUC
PUBLIC SAFETY, HEALTH, AND NUISANCE					
Radio and Television Interference. (Class II)	PS-2: After energizing the transmission line, the Applicant shall respond to and document all radio/ television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by the Applicant, within 90 days, to the CPUC's Energy Division for resolution.	All overhead transmission line segments.	Document complaints and action taken. Submit summary to CPUC each year for first two years of operation. Unresolved complaints submitted to CPUC.	Complaint summary demonstrates a lack of interference complaints or remedies utilized to resolve interference.	CPUC

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-4 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Operation

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
TRANSPORTATION AND TRAFFIC					
Physical damage to roads and sidewalks. (Class I)	T-4: If damage to roads and sidewalks occurs, PG&E Co. will coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/easement with the applicable governing agency prior to construction.	Construction access roads & trenched roads in which transmission line is buried.	Review documentation that PG&E Co. obtained permits for construction within each road ROW prior to construction; and that each affected roadway has been satisfactorily restored and/or constructed within 30 days of roadway damage.	Restoration/maintenance of roads to pre-construction conditions as determined by the affected public agency.	CPUC, affected local jurisdictions and Caltrans
VISUAL RESOURCES					
Adverse visual impact to a valued landscape resulting from the placement of new structures of the Alternative S1/S2/L2 common segment near Sycamore Grove Trail in Sycamore Grove Regional Park and near Route 84 county-designated scenic route. (Class II)	V-1: If the S1, S2, or L2 Alternatives are selected, the underground portion of these routes should be extended southeast so the overhead/underground transition station is located immediately adjacent to the tap point in the Tesla-Newark corridor.	S1/S2/L2 common segment within Sycamore Grove Regional Park and near Route 84 at Vineyard.	CPUC to verify project redesign prior to construction and implementation following construction.	Visibility of transmission structures will be significantly reduced as viewed from Sycamore Grove Regional Park and county-designated scenic Route 84.	CPUC
Adverse visual impact resulting from the visibility of the upper portions of the S4 Alternative from the Ruby Hill golf course and residential development. (Class II)	V-2: If Alternative S4 is approved by the CPUC, reduce transmission line structure heights as sufficient to eliminate views of the structures and conductors from the Ruby Hill development. If necessary to accomplish this objective, move the underground transition station further south to reduce the number of aboveground structures. The design to comply with these conditions will be submitted to the CPUC for approval at least 30 days prior to construction start.	S4 Alternative route through the open space immediately west of the Ruby Hill development.	CPUC to verify project redesign prior to construction and implementation following construction.	Visibility of transmission structures will be eliminated as viewed from the Ruby Hill golf course and residential development.	CPUC

Table F-4 Mitigation Monitoring Compliance and Reporting Program - Measures to be Implemented During Operation

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency
Adverse visual impact on a scenic landscape resulting from the placement of Proposed Project structures across a scenic valley south of Manning Road in North Livermore. (Class II)	V-3: If the proposed transmission line route to the Dublin Substation is selected, the visual impact of the line east of Milepost B14.5 shall be reduced by one of the following methods (the first is preferred): Option A: Install the line underground from the tap to the Contra Costa-Newark line to approximately Milepost B14.5 to eliminate an overhead crossing of the scenic valley and hills visible from Key Viewpoint 13 on Manning Road. Option B: Relocate the overhead portion of the proposed route between Mileposts B13 and B14.5 further south such that the overhead line is not visible from Manning Road in the vicinity of Key Viewpoint 13 (see Figure C.12-15-C).	Proposed Project between approximately Mileposts B13 and B14.5.	CPUC to verify project redesign prior to construction and implementation following construction.	Visibility of transmission structures will be eliminated as viewed from Manning Road east of Carneal Road in North Livermore.	CPUC
Night lighting of the transition station. (Class II)	V-4: All outdoor lighting is to be activated by a switch outside of the fenced facility. The switch is to be accessed by a key and the lights are to be turned on only when emergency work is underway.	All project facilities and substations.	Verify lighting control design prior to construction and its implementation following construction.	Effective if illumination of the facility is visible only under emergency conditions and at no other time.	CPUC

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F.4.2 APPLICANT PROPOSED MEASURES

The Applicant has incorporated a significant number of measures and procedures into the description of the Proposed Project that would avoid or reduce impacts. In the assessment of the impacts, these measures have been assumed to be part of the Proposed Project and are therefore not included as mitigation measures. The Applicant Proposed Measures that could reduce the potential impacts in an issue area (such as air quality, biology, etc.) are listed in Table F-5.

Table F-5 Applicant-Proposed Measures

Measure #	Measure
MEASURES IMPLEMENTATED PRIOR TO CONSTRUCTION	
AIR QUALITY	
10.1a	All personnel working on the project will be trained prior to starting construction on methods for minimizing air quality impacts during construction.
BIOLOGICAL RESOURCES	
7.1 ¹ Emergent Wetlands	Any permanent loss of emergent wetlands resulting from the construction of access roads will be mitigated at a ratio of 1:1 through: <ul style="list-style-type: none"> ▪ The purchase, restoration and protection of severely degraded wetlands in the vicinity of the project, ▪ The creation of new emergent wetland from upland habitat within the vicinity of the project, and/or ▪ The purchase from a mitigation bank of similar wetlands in the vicinity of the project.
7.2 ¹ Special Status Plant Species	Following the completion of all special status plant surveys, if it is determined that they occur within the project area, PG&E will modify the project to avoid impacts to the identified species. If identified special status plant species cannot be avoided, PG&E will: <ul style="list-style-type: none"> ▪ Modify the project to minimize impacts to identified species ▪ Acquire suitable habitat for identified species within the project vicinity ▪ Develop a long term habitat enhancement plan (HEP) for identified species ▪ Monitor the implementation of and the compliance with mitigation measures as outlined in the HEP.
7.3 ¹ Harm or Harassment of a Federal Listed Endangered Species. San Joaquin Kit Fox	PG&E will comply with the USFWS's "Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance," (USFWS, April 1, 1997). This document includes measures for preconstruction surveys and measures to minimize or eliminate mortality, harm, or harassment resulting from construction activity. <ul style="list-style-type: none"> ▪ All surveys and den excavations will be conducted by a qualified biologist. ▪ Preconstruction/preactivity surveys will be conducted in the proposed active phase area no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities that are likely to impact the San Joaquin kit fox ▪ Any potential den will be monitored for evidence of kit fox use by placing a tracking medium at den entrances for at least 3 consecutive nights. If a den is determined to be occupied, progressive plugging of the den may be employed to discourage use, and the den closed after it is determined to be unoccupied for a minimum of 3 consecutive nights (USFWS, 1997) ▪ Potential dens that can be avoided during ground disturbing activities will have an exclusion zone established around them. The radius of the exclusion zone will be 100 feet for known dens and 50 feet for potential or atypical dens ▪ Project-related vehicles will observe a 20-mph speed limit in project areas deemed to provide kit fox habitat (as per Construction and Operational Requirements, USFWS 1997), except as posted on county roads, and state and federal highways. Nighttime construction will be minimized. Vehicles will be limited to the designated project area to avoid kit fox habitat ▪ The use of rodenticides and herbicides will be restricted by PG&E within project boundaries ▪ To prevent accidental entrapment of kit fox during construction, all excavated holes or trenches will be covered at the end of each work day with plywood or similar materials. Before such holes are filled, they will be thoroughly inspected for trapped animals. In the event of a trapped animal, ramps or other structures will be installed immediately to allow the animal to escape, or the USFWS will be contacted for advice ▪ PG&E will appoint a representative who will notify the USFWS and CDFG immediately in the event of an accidental death or injury to a kit fox during project-related activities, and a follow-up letter will be submitted within 3 working days of the accident ▪ All temporary disturbance areas will be recontoured, if necessary, and revegetated to promote restoration of the area to pre-project conditions.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-5 Applicant-Proposed Measures

Measure #	Measure
7.3(a) ¹ Replacement of Denning and Foraging Habitat for the San Joaquin Kit Fox.	All foraging and denning habitat that could be lost to construction activities will be calculated and reported to the USFWS and CDFG. This acreage will be mitigated at a 3:1 ratio with the purchase of habitat credits or the purchase of offsite mitigation land.
7.4 ¹ Interruption of Breeding and Nesting Activities of Avian Species.	<p>If occupied habitat is detected either within the right-of-way or 250 feet from the project-impact area, measures to avoid, minimize, or if necessary, mitigate impacts will be incorporated into the project. For the burrowing owl (known to be present), specific mitigation measures are suggested by CDFG (Burrowing Owl Consortium, 1993) and are discussed separately under Measure 4(a).</p> <p>All species and subspecies of the families listed in the Migratory Bird Treaty Act and their nests are protected. In addition, the golden eagle is protected under the Bald Eagle Protection Act. Take of individual animals will be avoided by conducting pre-construction surveys before the spring breeding season (and prior to start of construction). A survey of the construction area for potential avian species will be performed by a qualified biologist. It is expected that if construction occurs in suitable habitat before the onset of the breeding season, the construction disturbance would cause bird species to seek alternate sites for breeding and nest construction.</p> <p>The following measures will reduce the likelihood of impacting either sensitive habitat or directly impacting birds that could be nesting.</p> <ul style="list-style-type: none"> ▪ To the extent possible, transmission line towers and access roads will avoid sensitive habitat. Flexibility exists in the exact placement of these features ▪ To the extent possible, the breeding season (February to September) will be avoided; however, if avoidance of active nests is not practicable, a construction-free buffer of at least 250 feet around the nest will be maintained to protect breeding birds ▪ A biological monitor will remain onsite to monitor the activity of the nesting birds during work to determine if work could continue without causing significant disturbance to the birds and to ensure implementation of and compliance with all avoidance and mitigation measures ▪ Wetland habitat will be spanned by the transmission line. At Arroyo Valle, a dry bore will be made under the riverbed. These methods are included to avoid direct impacts to breeding habitat ▪ Should nest abandonment during breeding occur, the biological monitors will notify the appropriate resource agencies.
7.4(a) ¹ Burrowing Owl	<p>A pre-construction survey will be conducted by a qualified biologist in all areas providing suitable habitat at least 30 days prior to construction according to the most recent Burrowing Owl Survey Protocol and Mitigation Guidelines (Burrowing Owl Consortium, 1993), and as suggested by CDFG. Surveys will cover grassland areas within a 500-foot buffer along the proposed transmission line routes and substations, and they will include areas designated for temporary laydown areas and access roads. The survey will include checking for the burrowing owl and owl sign. If owls are found to be using the site and avoidance is not feasible, a passive relocation effort (displacing the owls from the site) may be conducted as described below, subject to the approval of the CDFG.</p> <p>If occupied habitat is found on or adjacent to the Proposed Project features, measures to avoid, minimize, or mitigate impacts to burrowing owls will be incorporated into the project. They will include:</p> <ul style="list-style-type: none"> ▪ Confirmed unoccupied burrows along the route may be collapsed ▪ Establish areas around the occupied burrows where no disturbance may occur. The sensitive areas shall extend 160 feet around the occupied burrows during the non-breeding season of September 1 through January 31, and shall extend 250 feet around occupied burrows during the breeding season from February 1 through August 31. A barrier fence will be erected during the breeding season around occupied burrows. If this avoidance method is not possible, passive relocation of the owls may occur but only during the non-breeding season. Passive relocation would include installing one-way doors on the entrances of burrows located within 250 feet of the Proposed Project features. The one-way doors shall be left in for 48 hours to ensure the owls have vacated the burrow. Owls would not be relocated during the breeding season. ▪ For each active burrow that will be excavated by project construction, one natural or artificial burrow will be provided outside of the 250-foot buffer. These alternate burrows will be monitored daily for 1 week to ensure the owls have successfully moved ▪ Burrows within the construction area shall be excavated under the supervision of a biological monitor using hand tools and then refilled to prevent reoccupation. If any burrowing owls are discovered during excavation, the excavation shall cease and the owl allowed to escape. Excavation may be completed when the biological monitor confirms that the burrow is empty ▪ All work will be coordinated with CDFG.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

Table F-5 Applicant-Proposed Measures

Measure #	Measure
<p>7.6¹ California Red-legged Frog (CRLF)</p>	<p>Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been demonstrated. To avoid construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds and drainages in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area.</p> <p>To minimize impacts to the ephemeral drainage at Milepost B13.18, appropriate construction techniques will be employed to minimize disturbance of stream channels and banks. If significant impacts occur to breeding or estivation habitat of the CRLF, PG&E will replace the habitat at a ratio negotiated with USFWS.</p> <p>The permanent loss of estivation habitat (upland impacts) due to construction of access roads and towers could be considered a significant impact by the USFWS and could require a replacement ratio of 1:1. However, this would vary depending on the abundance of suitable habitat in the project vicinity.</p> <p>In the unlikely event that construction activities occur in wetlands identified as suitable CRLF habitat, PG&E will enter into formal consultation with the USFWS and implement the avoidance and minimization measures outlined in a Biological Assessment prepared for the CRLF. Avoidance and minimization measures that the USFWS would likely require include the following:</p> <ul style="list-style-type: none"> ▪ Prior to the initial site investigation and subsequent ground-disturbing activities, a qualified biologist would instruct all project personnel in environmental training, including recognition of CRLF and their habitat. Under this program, workers shall be informed about the presence of CRLF and habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the federal Endangered Species Act. The biologist shall instruct all construction personnel regarding the life history of CRLF, the importance of marshes/wetlands to the frog, and the terms and conditions of the Biological Opinion ▪ A qualified biologist would be present during construction activities to monitor and determine the extent of potential ground-disturbing activities within 30 feet of suitable habitat ▪ Ground-disturbing activities within 30 feet of suitable habitat could only occur between May 1 and October 31 ▪ Between November 1 and April 30, ground-disturbing activities will not occur within 30 feet of suitable habitat ▪ Between May 1 and October 31, equipment will not be allowed within 30 feet of suitable habitat until a qualified biologist inspects the site to ensure the route was clear of CRLF ▪ Clearing of wetland vegetation will be confined to the minimal area necessary. Excavation activities will be accomplished by using equipment located on and operated from the side of the drainage with the least interference practicable for emergent vegetation ▪ If a CRLF is encountered during excavations, activities would cease until the frog was removed and relocated by a USFWS approved biologist. ▪ After completion of construction activities, any debris will be removed and, wherever feasible, disturbed areas will be restored to pre-project conditions. A restoration plan will be prepared for those sites where emergent vegetation is removed. The following elements will be included in the restoration plan: ▪ Prior to all construction activities, the site will be photographed to establish the pre-project condition ▪ After completion of construction activities, the site will be graded to the pre-existing contour or a contour that would improve the restoration potential of the site. ▪ The site will be replanted and hydro-seeded. Recommended plantings consist of wetland emergents, low-growing cover on or adjacent to banks, and upland plantings/hydro-seeding to encourage use by other wildlife. Replanting should involve the same species removed during construction. Plantings should be at least the same density and compositions as the pre-project level ▪ The restoration plan will identify success criteria for the restoration ▪ Habitat restoration will be monitored for 1 year from implementation. Monitoring reports documenting the restoration effort will be submitted to the USFWS upon completion of the restoration implementation and 1 year from restoration implementation. Monitoring reports will include photo documentation, the date restoration was completed, and the species used for plantings. Monitoring reports will also include recommendations for remedial actions; approval from the USFWS, if necessary; and justification from release of any further monitoring, if requested.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

Table F-5 Applicant-Proposed Measures

Measure #	Measure
<p>7.7² California Tiger Salamander (CTS)</p>	<p>Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been demonstrated. To avoid potential construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds and drainages in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. If significant impacts occur to CTS estivation or breeding habitat, PG&E will replace the habitat at a ratio negotiated with CDFG.</p> <p>The permanent loss of estivation habitat usually requires a replacement ratio of 1:1; however, this may vary if estivation habitat is abundant in the general vicinity. In the unlikely event that excavation activities occur in wetlands identified as suitable CTS habitat, PG&E will enter into formal consultation with CDFG and USFWS and will implement avoidance and minimization measures. These measures could include the following:</p> <ul style="list-style-type: none"> ▪ Before construction begins, a qualified biologist will instruct all project personnel in environmental awareness training, including recognition of CTS and their habitat. Under this program, workers shall be informed about the presence of CTS and habitat associated with the species, and that unlawful take of the animal or destruction of its habitat would be a violation under state law. The biologist will instruct all construction personnel regarding the life history of CTS, the importance of wetlands to the salamander ▪ A qualified biologist will be present during construction activities to monitor and determine the extent of potential ground-disturbing activities within 30 feet of suitable habitat ▪ Ground-disturbing activities within 30 feet of suitable habitat could only occur between May 1 and October 31 ▪ Between November 1 and April 30, ground-disturbing activities will not occur within 200 feet of suitable habitat ▪ Clearing of wetland vegetation will be confined to the minimal area necessary. Excavation activities will be accomplished by using equipment located on and operated from the side of the drainage with the least interference practicable for emergent vegetation ▪ Before allowing equipment within 30 feet of suitable habitat, a qualified biologist will inspect the site to ensure the route is clear of CTS ▪ If a CTS is encountered during excavations, activities would cease until the salamander was removed and relocated by a CDFG-approved biologist ▪ After completion of construction activities, any construction debris will be removed; wherever feasible, disturbed areas shall be restored to pre-project conditions.
<p>7.8¹ Western Pond Turtle (WPT)</p>	<p>Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been determined. To avoid potential construction impacts to aquatic habitats, a buffer zone will be established around all ponds in the project area which contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. This buffer zone will be a minimum of 30 feet during the dry season (May to October) and a minimum of 200 feet during the wet season (November to April).</p>
<p>7.9¹ Western Spadefoot Toad (WST)</p>	<p>Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been determined. To avoid potential construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area.</p>
<p>7.10¹ Vernal Pool Fairy Shrimp (VPFS) and Longhorn Fairy Shrimp (LFS)</p>	<p>Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been determined. To avoid potential construction impacts to aquatic habitats, a buffer zone will be established around all ponds and drainages in the project area which contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. A 250-foot buffer will be maintained during the wet season (first substantial rainfall after October 31 until May 15), and a 100-foot buffer will be maintained during the remainder of the year. Construction monitoring will be done at each Seasonal Wetland with the potential to support listed shrimp. Monitoring of each site will occur during all construction activities within 250 feet of potential habitat. If the areas of potential shrimp habitat can be avoided, no additional mitigation measures are required. If the wetlands cannot be avoided, formal consultation with the USFWS would be required, and a Biological Assessment would need to be prepared.</p>

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

Table F-5 Applicant-Proposed Measures

Measure #	Measure
7.11 ¹ Curved-foot Hygrotus Diving Beetle and Ricksecker's Water Scavenger Beetle	To avoid potential construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area.
CULTURAL RESOURCES	
9.1 ¹	The best mitigation measure is to avoid impacts to cultural resources that may be located in the project area. PG&E will have an archaeologist demarcate cultural resource site boundaries on the ground to ensure that proposed project improvements do not impinge on the resource(s). Although there are presently no known archaeological sites that would be subject to potential construction impact, PG&E will ensure that wherever a tower or access road must be placed within 100 feet of a known archaeological site, the site will be flagged on the ground as an Environmentally Sensitive Area (ESA). Construction equipment would then be directed away from the ESA, and construction personnel would be directed to avoid entering the ESA. Prior to starting construction near any designated ESA, the construction crew would be informed of the resource values involved and of the regulatory protections afforded to the resources. The crew would also be informed of procedures relating to designated ESAs and cautioned not to drive into these areas or operate construction equipment on them. The crew would be cautioned not to collect artifacts and would be asked to inform their supervisor if cultural remains are uncovered. If any cultural remains are discovered, work at the site will be halted, and a qualified archaeologist will be called to determine the significance of the find.
GEOLOGY, SOILS, AND PALEONTOLOGY	
13.1 Soft or Loose Soils	PG&E Co. will perform design-level geotechnical studies to evaluate the potential for and effects of soft or loose soils, which will be over-excavated during construction and replaced with engineered backfill or other ground treatment. Where necessary, construction activities will be limited to the dry season. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
13.2 Erosion	PG&E Co. will develop an Erosion Control Plan which will be implemented throughout the construction period. Erosion control measures will include avoiding disturbance of steep slopes, using drainage control, controlling vehicular traffic, implementing dust control, and revegetating disturbed areas following construction.
13.3 Slope Instability and Unstable Soil Conditions	PG&E Co. will use appropriate design features and construction procedures to maintain stable slope configurations during construction. Construction activities will be suspended during and immediately following periods of heavy precipitation. Development of grading plans and construction procedures will address access roads, substations, transmission towers, and the stability of temporary and permanent cut, fill, and otherwise impacted slopes. A design-level geotechnical investigation will be performed to evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures to limit ground deformation, and protect the public and workers' safety during trenching and excavating operations. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
13.4 ¹ Paleontologic Resources	PG&E Co. will contact a qualified paleontologist to examine and determine the significance of any fossils encountered during construction. If the find is deemed to have scientific value, the paleontologist and PG&E Co. will devise a plan to either avoid impacts or continue construction without disturbing the integrity of the find.
13.5 Mineral Resources	PG&E Co. has developed their Proposed Project to avoid areas within specially designated mineral resource sectors. Aggregate and other mineral resources are known to exist beneath existing facilities of the Pleasanton Area and the Tesla-Newark transmission corridor, however these facilities lie outside specially designated mineral resource sectors and mitigation is not required.
13.6 Ground Subsidence	PG&E Co. will evaluate the potential for subsidence due to compaction from groundwater withdrawal, strong ground motions, and the presence of soft, loose compressible soils during design-level geotechnical investigations. The need to place additional fill or construct berms to reduce potential flooding from past subsidence will be evaluated and incorporated into design and construction plans. PG&E Co. will remove or rework near surface deposits likely to experience settlement prior to placing new fill. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
13.7 Settlement	PG&E Co. will conduct a design-level geotechnical investigation to evaluate the potential for settlement of approved project facilities. The results of the investigation will be used to develop appropriate foundation and structural designs to accommodate expected settlements. Soils found to be potentially susceptible during the investigation may be excavated, removed and replaced with engineered fill. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-5 Applicant-Proposed Measures

Measure #	Measure
13.8 Expansive, Soft, or Loose Soils	PG&E Co. will conduct design-level geotechnical studies to develop appropriate design features for locations where potential problems are known to exist. Appropriate design features may include excavation of problematic soils and replacement with engineered backfill, ground treatment processes for densification of soft or loose soils, direction of surface water and drainage away from foundation soils, and the use of deep foundations such as piers or piles. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
13.9 Slope Instability, Landslides, Mudflows, or Debris Flows	PG&E Co. will perform a design-level geotechnical survey to evaluate the potential for unstable slopes, landslides, mudflows, and debris flows along the approved routes. Facilities will be located away from steep hillsides, debris flow source areas, the mouths of steep sidehill drainages, and the mouths of canyons that drain steep terrain. Specially designed deep foundations may be used in areas of shallow sliding where unstable slopes cannot be avoided. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
13.10 Surface Fault Rupture	PG&E Co. addressed the overhead crossings of four mapped faults with mitigation measures as follows: Elk Ravine Fault: Pre-Quaternary inactive fault; avoidance of mapped fault traces beneath transmission tower locations will avoid the hazard. Greenville Fault: Historically active fault; performance of geotechnical investigations at tower foundation sites to locate and avoid potential for surface fault rupture, design transmission lines to accommodate potential fault displacement. Pleasanton Fault: Holocene active fault; Proposed Project not located across or adjacent to fault. Verona Fault: Holocene active fault; performance of geotechnical investigations at tower foundation sites to locate and avoid potential for surface fault rupture, design transmission lines to accommodate potential fault displacement. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
13.11 Strong Ground Motions	Some types of substation equipment are very susceptible to damage from earthquakes. To address this problem, PG&E Co. in conjunction with other utilities throughout the United States and Canada, and equipment vendors and consultants, have revised IEEE 693, "Recommended Practices for Seismic Design of Substations." Within this document are equipment and voltage-specific seismic qualification requirements. These requirements are much more stringent than those in the Uniform Building Code. Qualification includes shake table testing and dynamic analysis. PG&E Co. will purchase equipment for the substation using the seismic qualification requirements in IEEE 693. When these requirements are followed, very little structural damage from levels approaching 1.0 g peak ground acceleration are anticipated. PG&E Co. will design all substation control buildings in accordance with the Uniform Building Code.
13.12 Liquefaction and Seismic Ground Failure	PG&E Co. will perform design-level geotechnical investigations to evaluate the liquefaction potential of soils underlying all substation, transition station, transmission tower, and underground sites. Analysis of existing data will examine the possibility of liquefaction, and develop appropriate engineering design and construction measures including pile foundations, ground improvement of liquefiable zones by densification, flexible bus connections, and slack in underground cables to allow ground deformations without damage to structures. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.
HYDROLOGY AND WATER QUALITY	
8.1 ¹	An erosion control and sediment transport control plan will be submitted to Alameda County and Contra Costa County along with grading permit applications. This plan will be prepared in accordance with the standards provided in the Manual of Erosion and Sedimentation Control Measures (ABAG, 1981) and in compliance with practices recommended by the Natural Resources Conservation Service. Implementation of the plan will help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan will designate BMPs that will be adhered to during construction activities. Erosion minimizing efforts such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), vehicle mats in wet areas, and retention/settlement ponds will be installed before extensive clearing and grading begins. Mulching, seeding, or other suitable stabilization measures will be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds, and grading plans will be submitted to the CDFG for review in the event of construction near waterways. The plan will incorporate stipulations of the Alameda County grading erosion and sediment control ordinance, which requires that "trenching and grading associated with the construction and installation of underground pipelines be backfilled and the surface restored to its original condition, including reseeding or otherwise restoring vegetation on all disturbed slopes exceeding 2 percent," as soon as possible after such grading work is completed. Non-hazardous trench spoils from the underground transmission line will be stockpiled and used to backfill the trench. Open portions of the trench will be covered when not under active construction. Standard erosion and dust control practices will be used during construction according to Best Management Practices to protect biological and hydrological resources.
8.2 ¹	An environmental training program will be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, to all field personnel. A monitoring program will be implemented to ensure that the plans are followed throughout the period of construction.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

Table F-5 Applicant-Proposed Measures

Measure #	Measure
8.3	PG&E Co. will prepare a Hazardous Substance Control and Emergency Response Plan which will include preparations for quick and safe cleanup of accidental spills. This plan will be submitted with the grading permit application. It will prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted.
8.5 ¹	Soil sampling and potholing will be conducted before construction begins, and soil information will be provided to construction crews to inform them about soil conditions and potential hazards. If hazardous materials are encountered in trench soils, work will be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of hazardous materials is required, they will be handled, transported, and disposed of in accordance with federal, state, and local regulations. Prior to initiating excavation activities at pole locations near the Altamont Landfill, soil borings will be advanced to ensure that groundwater will not be contacted. If groundwater is encountered within the depths of the proposed foundations, samples will be collected and submitted for laboratory analysis of metals and halogenated volatile organic compounds. If necessary, groundwater will be collected during construction, stored in Baker tanks, and disposed of in accordance with state and local regulations. Appropriate personal protective equipment will be used and soils management will be performed in accordance with state and county regulations.
TRANSPORTATION AND TRAFFIC	
11.3 ¹ Construction Procedure	Required permits for temporary lane closures will be obtained from the City of Pleasanton, Contra Costa County, and Alameda County. Before obtaining roadway encroachment permits from the cities and counties, PG&E Co. will submit a Traffic Management Plan subject to the local jurisdiction's review and approval. As part of this plan, traffic control measures and construction vehicle access routes will be identified. Construction of the underground portion of the transmission line will occur between 8 a.m. and 5 p.m., Monday through Friday, unless PG&E Co. obtains special permission from the City of Pleasanton. All property owners and residents of streets affected by construction will be notified prior to the start of construction. Advance public notification will include postings of notices and appropriate signage of construction activity.
11.4 Notification and Coordination with Appropriate agencies and public.	All construction activities will be coordinated with local law enforcement and fire protection agencies. Emergency service providers will be notified of the timing, location, and duration of construction activities.
11.5 Notification and Coordination with Appropriate agencies and public.	PG&E Co. will consult with the Alameda, Pleasanton, and Livermore Valley Joint Unified School Districts at least 1 month prior to construction to coordinate construction activities adjacent to school bus stops. If necessary, school bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. PG&E Co. will also consult with the Livermore/Amador Valley Transit Authority at least 1 month prior to construction to reduce potential interruption of transit service on Bernal Avenue.
MEASURES IMPLEMENTATED DURING CONSTRUCTION	
The following Applicant Proposed Measures must also be implemented during construction and are presented above: 7.1; 7.2; 7.3 and 7.3 (a); 7.4 and 7.4 (a); 7.6; 7.7; 7.8; 7.9; 7.10; 7.11; 8.1; 8.2; 8.5; 9.1; 11.3.	
AIR QUALITY	
10.1b	Water all active construction areas, access roads, and staging areas at least twice daily.
10.1c	Cover all trucks hauling soil and other loose material, or require at least 2 feet of freeboard.
10.1d	Construction vehicles will use paved roads to access the construction site when possible.
10.1e	Limit vehicle speeds to 15 mph on unpaved roads.
10.1f	Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets.
10.1g	Apply soil stabilizers to inactive construction areas on an as-needed basis.
10.1h	Enclose, cover, water twice daily, or add soil binders to exposed stockpiles of soil and other excavated materials.
10.1j	Construction workers will carpool when possible.
10.1k	Vehicle idling time will be minimized.
10.1 ³	Replant vegetation in disturbed areas following the completion of construction.
BIOLOGICAL RESOURCES	
7.12 San Joaquin Saltbush	Neither towers nor access roads will be located within the San Joaquin saltbush population present at Milepost B8.2 to B9.0. Sock line stringing will be done by helicopter, and a monitor will be present during construction to ensure that impacts to the population are reduced to less than significant levels.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

F. Mitigation Monitoring, Compliance, and Reporting Program

Table F-5 Applicant-Proposed Measures

Measure #	Measure
HYDROLOGY AND WATER QUALITY	
8.4	Oil-absorbent material, tarps, and storage drums will be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from pole foundations during pouring, it will be directed to bermed areas adjacent to the borings where the water will infiltrate or evaporate and the concrete will remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it will be removed and transported to an approved landfill for disposal.
8.6	If groundwater is encountered while excavating or constructing the underground transmission line, it will be checked for contaminants, and if none are found, will either be released to one of Kaiser Sand and Gravel's sediment ponds (with approval), released to the City of Pleasanton's storm water drainage system (with approval), or contained in a tank and disposed of in accordance with all applicable federal, state, and local regulations.
LAND USE AND RECREATION	
5.1 ³	All new access roads will be gated and locked at fence lines.
5.2 ³	All new access roads will have a "No Trespassing" sign posted at their entrance from a public roadway.
5.3	PG&E will pay restitution for relocating wind turbines and restricting wind farm operations that are currently located outside of PG&E's existing easement.
NOISE	
12.1a	Compressors and other small stationary equipment will be shielded with portable barriers.
12.1b	"Quiet" equipment (i.e., equipment that incorporates noise control elements into the design; compressors and jackhammers have "quiet" models) will be used during construction.
12.1c	Equipment exhaust stacks/vents will be directed away from buildings.
12.1d	Truck traffic will be routed away from noise-sensitive areas where feasible.
12.1e	Temporary sound barriers or sound curtains will be employed if the other noise reduction methods are not effective or possible, or if sensitive receptors will be exposed to construction noise for more than 1 day.
TRANSPORTATION AND TRAFFIC	
11.1 Traffic Control During Construction	PG&E Co. will maintain the maximum amount of travel lane capacity possible during non-construction periods and will provide flagger-control at all construction sites to manage traffic control and flows.
11.2 Traffic Control During Construction	During construction, PG&E Co. will limit the work zone to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone. Alternatively, PG&E Co. will use detour signing, where available, on alternate access streets in the event that temporary street closure is required.
VISUAL RESOURCES	
6.1	PG&E will keep construction-related activity as clean and inconspicuous as practical by generally storing building materials and equipment away from public view and removing construction debris promptly at regular levels
6.2	To reduce the amount of perceived visual clutter (between Mileposts B12 and B13), PG&E will eliminate the existing distribution line located on the north side of, and adjacent to, Manning Road by placing it underground. The underground line will be placed within the existing PG&E easement parallel to Manning Road. Modifications to the current easement language to incorporate undergrounding may be necessary.
6.3	To reduce the amount of perceived visual clutter (between Mileposts V0 and V1), PG&E will eliminate the existing distribution line located adjacent to North Livermore Avenue by undergrounding it. The underground line will be placed in the easement that PG&E will acquire for the proposed new transmission line to the North Livermore Substation. To improve the project's overall integration with its surroundings, PG&E will participate in future aesthetic enhancement measures for North Livermore Avenue. Proposed plans call for widening North Livermore Avenue from two lanes to four lanes. To the extent that specific aesthetic design information is available regarding these roadway improvements, PG&E will coordinate design themes for the substation using appropriate tree species, lighting fixtures, and wall treatments with approved plans for the roadway improvements.
6.4	To reduce the project's skylining effects (between Mileposts B13 and B14), PG&E will site individual poles at the ridgeline crossing by selecting locations that result in the towers appearing against at least a partial backdrop of existing landform and vegetation when seen from Manning Road and North Livermore Avenue.
6.5 ³	To visually integrate the North Livermore Substation with its surroundings, PG&E will install a perimeter fence and landscaping treatment, including trees and shrubs, that is appropriate to the surrounding community's appearance. Plant material will be consistent with recommendations contained in local ordinances and guidelines. Final landscape design treatment for the substation will be developed in consultation with the City of Livermore (or Alameda County, depending on the jurisdiction at the time).

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation

Table F-5 Applicant-Proposed Measures

Measure #	Measure
6.6	To minimize potential glare from the substations and transition station, all proposed structures at these sites, including fences, will be painted or finished with a non-reflective treatment. Exterior lighting at substations will include the use of non-glare light bulbs. Lighting fixtures will be located and designed to avoid casting light or glare on off-site locations.
6.7	To minimize potential visual impacts from the Dublin Substation on views from future residential areas, PG&E will create setbacks for future landscaping. Trees will be planted as soon as practicable after the property is acquired and landscape plans are approved. When landscaping is installed, the selected plant material will be consistent with recommendations contained in local ordinances and guidelines.
6.8	Between Mileposts B8.1 to B10.4, PG&E will carefully site individual poles that are located in close proximity to residences so as to minimize their visibility.
6.9 ³	To reduce the visibility of the transition station (Milepost M3) as seen from the Kottinger Ranch residential area, a combination of trees and earth berms will be installed along the northern side of the facility. Recontouring of disturbed, graded areas will be implemented to provide a natural appearing landform upon completion of construction.
MEASURE IMPLEMENTATED DURING OPERATIONS	
The following Applicant Proposed Measures must also be implemented during operations and are presented above: 5.1; 5.2; 6.5; 6.7; 6.9; 7.7; 10.1i.	
BIOLOGICAL RESOURCES	
7.13 Predation	The following measure will be implemented to reduce perching and predation opportunities: <ul style="list-style-type: none"> ▪ Tubular steel poles will be used extensively throughout the project area to minimize perching and predation opportunities ▪ Predation opportunities will be further reduced through the use of deterrents such as bird guards (Nixalite) to discourage perching of raptors at all tower locations within areas containing suitable habitat for burrowing owls. This deterrent consists of rows of spring-tempered nickel stainless-steel prongs with sharp points extending outward at all angles, except where affixed, on potential perches on new poles.
7.14 Bird Collisions	No major flyways along the Phase 2 (North Area) route have been identified in the existing literature. However, bird flight patterns and collision mortality will be monitored for 3 years after construction on portions of the line where the potential for mortality is considered moderate to high (such as the Altamont Pass area). The purpose of the monitoring is to determine where problems might occur. This information would be necessary prior to discussing the need for appropriate mitigation methods and further action with the USFWS. All monitoring data, and the need for any further action, will be shared with the USFWS.

¹ Applies to prior to construction and during construction ² Applies to prior to and during construction, and during operation ³ Applies to during construction and operation