C.11 TRANSPORTATION AND TRAFFIC

C.11.1 ENVIRONMENTAL BASELINE AND REGULATORY SETTING

The environmental setting for this section is presented as a regional overview.

C.11.1.1 Environmental Setting

The Proposed Project and Alternatives would pass primarily through residential and undeveloped areas of Dublin, Pleasanton, Livermore and San Ramon and in portions of the unincorporated Alameda and Contra Costa Counties adjacent to these cities.

C.11.1.1.1 *Existing Roadway Network*

Figure C.11-1 illustrates the study area roadway network and the project and project alternative transmission line paths and substation locations. The roadway network that could potentially be affected by the Proposed Project and Alternatives includes highways and streets where transmission lines would be installed or where substations would be constructed. Vehicle, bicycle and pedestrian circulation could be impacted by the installation of transmission lines over, under or adjacent to roadways. Project construction traffic would also use regional and local roadways to access the study area.

There are a number of roadway segments that would be directly or indirectly affected by construction of the Proposed Project and Alternatives. The names and locations of these roadway segments, the general roadway classification, the number of lanes, and the daily and peak hour traffic volumes are shown in Table C.11-1. The table also indicates the physical relationship (adjacent, under or over) of the planned transmission lines to the roadway.

Major study area roadways that would be potentially affected by the construction of the Proposed Project and alternatives are further described below. For relevance to the Proposed Project and Alternatives, please refer to Table C.11-1.

Interstate 680 (I-680). I-680 is a major north-south eight-lane freeway serving Contra Costa, Alameda and Santa Clara counties. The freeway connects the San Jose area to Solano County and links to I-80, the Sacramento area and the Central Valley. From the Alameda/Contra Costa County line south to the State Route 84 interchange, I-680 carries approximately 118,000 to 144,000 daily vehicles and 8,000 to 11,000 peak hour vehicles. A major Measure B improvement project[1] is currently underway at the I-580/I-680 Interchange in Dublin and Pleasanton. The I-680 Freeway marks the western boundary of the project study area.

[1] Measure B is a half-cent sales tax that pays for a variety of transportation projects and programs in Alameda County. It was originally passed by voters in 1986 and will expire in 2002. A measure to continue the tax at the same level for another 20 years was approved in November 2000.

Table C.11-1 Summary of Study Area Roadway Characteristics Along Proposed Project and Alternative Transmission Line Routes

Roadway	Jurisdiction	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
				Daily	Peak Hour	Crosses	Adjacent	Under
Proposed Phase 1 – South Area North-South Transmission Line								
Vallecitos Rd. (SR-84)	Caltrans	Arterial	2	25,000	2,400	X		
Benedict Ct.	Pleasanton	Local Street	2	120	15			X
Smallwood Ct.	Pleasanton	Local Street	2	260	25			X
Hearst Dr.	Pleasanton	Collector	2	3,500	350			X
Bernal Ave.	Pleasanton	Arterial	3 to 4 – Divided	10,300	1,030			X
Vineyard Ave (west)	Pleasanton	Arterial	2 + 1 cltl	4,800	480		X	X
Vineyard Ave. (east)	Pleasanton	Arterial	3/4 + cltl	9,300	930		X	X
Local Residential Streets – Hearst Drive Access Only								
Grant Ct.	Pleasanton	Local Street	2	240	25		X	X
Remillard Ct.	Pleasanton	Local Street	2	190	20		X	X
Pons Ct.	Pleasanton	Local Street	2	50	5		X	X
Casterson Ct.	Pleasanton	Local Street	2	150	15		X	X
Garabaldi Pl.	Pleasanton	Local Street	2	345	35		X	X
Clinton PL.	Pleasanton	Local Street	2	250	25		X	X
Proposed Phase 1: - North Area Proposed Transmission Line								
Doolan Rd.	Alameda Co.	Rural Road	2	n/a	n/a	X		
Collier Canyon Rd.	Alameda Co.	Rural Road	2	185	35	X		
Manning Rd	Alameda Co.	Rural Road	2	350	35	X		
N. Livermore Ave.	Alameda Co.	Rural Arterial	2	3,000	500	X		
N. Vasco Rd.	Alameda Co.	Rural Arterial	2	21,900	1,500	X	X	
May School Road	Alameda Co.	Rural Road	2	n/a	n/a		X	
Dagnino Road	Alameda Co.	Rural Road	2	n/a	n/a		X	
Proposed Phase 2: North Area - Tesla Connection East-West Transmission Line								
Laughlin Rd.	Alameda Co.	Rural Road	2	300	25	X		
BFI Landfill Road	Alameda Co.	Private Access	2	n/a	n/a	X		
Altamont Pass Rd.	Alameda Co.	Rural Arterial	2	5,100	470	X		
I-580	Caltrans	Freeway	8	118,000	8,400	X		
Alternative S1: Vineyard – Isabel – Stanley								
E. Vineyard Ave	Livermore	Arterial	2	4,000	400		X	X
Vallecitos Rd	Livermore	Arterial	2	24,600	2,460	X		
Isabel Ave	Livermore	Arterial	Under Construction	n/a	n/a		X	
Stanley Blvd	Alameda Co, Pleasanton	Arterial	4 – Divided	21,500	2,150		X	
Alternative S2: Vineyard Avenue								
E. Vineyard Ave	Livermore	Arterial	2	4,000	400		X	X
Vineyard Ave	Pleasanton	Arterial	3/4 + cltl	9,300	930		X	X
Vallecitos Rd	Livermore	Arterial	2	24,600	2,460	X		
Bernal Rd	Pleasanton	Arterial	3 to 4 -- Divided	10,300	1,030		X	X
Alternative S4: Eastern Open Space								
Same affected roadways as Alternative S2								
Alternative D1: South Dublin								
I-580	Caltrans	Freeway	8 – Divided	185,000	18,500		X	X
El Charro Rd	Private	Service	2	7,000	700		X	
Gravel Haul Rd	Private	Service	2	n/a	n/a		X	
Busch Rd	Pleasanton	Service	2	n/a	n/a		X	
Stanley Blvd	Pleasanton	Arterial	4 - Divided	21,500	2,150	X		

Table C.11-1 Summary of Study Area Roadway Characteristics Along Proposed Project and Alternative Transmission Line Routes

Roadway	Jurisdiction	Classification	Number of Lanes	Traffic Volume		Physical Relationship to Transmission Line		
				Daily	Peak Hour	Crosses	Adjacent	Under
Alternative D2: Dublin – San Ramon								
Alcosta Blvd	San Ramon	Arterial	4 - Divided	n/a	n/a	X		
Dougherty Rd	Contra Costa Co.	Rural Arterial	4	27,000	2,700	X		
Tassajara Rd	Contra Costa Co.	Rural Arterial	2	19,000	1,900	X		
Alternative P1: Variant on Proposed Project								
Collier Canyon Rd	Alameda Co.	Rural Road	2	185	35	X		
N. Livermore Ave	Alameda Co.	Rural Arterial	2	3,000	500		X	X
N. Vasco Rd	Alameda Co.	Rural Arterial	2	21,900	1,500	X		
May School Road	Alameda Co.	Rural Arterial	2				X	X
Dagnino Road	Alameda Co.	Rural Arterial	2			X		
Alternative P2: Variant on Proposed Project								
Collier Canyon Rd	Alameda Co.	Rural Road	2	185	35	X		
N. Livermore Ave	Alameda Co.	Rural Arterial	2	3,000	500		X	X
N. Vasco Rd	Alameda Co.	Rural Arterial	2	21,900	1,500	X		X
May School Rd.	Alameda Co.	Rural Arterial	2	n/a	n/a		X	X
Dagnino Rd	Alameda Co.	Rural Arterial	2	n/a	n/a	X		
Alternative L1: Raymond Road								
Ames St	Livermore, Alameda Co.	Rural Road	2	n/a	n/a	X		X
Raymond Rd	Livermore, Alameda Co.	Rural Road	2	n/a	n/a		X	X
Lorraine Rd	Livermore, Alameda Co.	Rural Road	2	n/a	n/a		X	
Alternative L2: Hartman Road								
E. Vineyard Ave	Livermore	Arterial	2	4,000	400		X	X
Vallecitos Rd	Livermore	Arterial	2	24,600	2,460	X		
Isabel Ave	Livermore	Arterial	Under Construction	n/a	n/a		X	
Isabel Ave/Hwy 84	Livermore	Arterial	To be Constructed	n/a	n/a		X	
Jack London Blvd	Livermore	Collector	4	n/a	n/a		X	X
Airway Blvd	Livermore	Collector	2+cltl	n/a	n/a	X		X
Lindbergh Ave	Livermore	Local Street	2	n/a	n/a	X		X
Kitty Hawk Rd	Livermore	Collector	4 - Divided	n/a	n/a	X		X
I-580	Caltrans	Freeway	8 – Divided	185,000	18,500	X		X
Hartman Rd	Livermore	Arterial	To be Constructed	n/a	n/a		X	X
Stanislaus Corridor Alternative								
Arroyo Rd	Alameda Co	Rural Road	2	n/a	n/a	X		
Mines Rd	Alameda Co	Rural Arterial	2	n/a	n/a	X		
Tesla Rd	Alameda Co	Rural Arterial	2	n/a	n/a	X		
Greenville Rd	Alameda Co	Rural Arterial	2	n/a	n/a		X	
Patterson Pass Rd	Alameda Co	Rural Road	2	n/a	n/a	X		
Cross Rd	Alameda Co	Rural Road	2	n/a	n/a	X		
Brushy Peak Alternative								
Laughlin Rd	Alameda Co.	Rural Road	2	300	25	X		

Sources:

Cities of Livermore, Dublin and Pleasanton Department of Public Works Staff. WWW pages of City of Pleasanton traffic Counts (data circa 1998). City of Pleasanton Annual Traffic Counts for Baseline 1998, May 1999. WWW Pages Caltrans 1999 Traffic Volumes on California State Highways. North Livermore Specific Plan, April 2000. South Livermore Specific Plan, January 1999. ITE Trip Generation, 6th Edition.

Notes:

n/a = not available; cltl = continuous left-turn-lane.

Interstate 580 (I-580). I-580 is a major east-west eight-lane freeway that connects the San Francisco Bay Area to Alameda County, the Tri-Valley Area, points east and to the I-205 and I-5 Freeways. Within the study area, from the I-680 interchange to Greenville Road (in Livermore), the I-580 carries 117,000 to 199,000 daily vehicles and 9,000 to 15,000 peak hour vehicle trips. A new interchange is planned and will be located at I-580/Isabel Parkway, between the Portola and Airway Boulevard interchanges. The new interchange will connect the future SR 84 (Isabel Parkway) to I-580.

State Route 84 (SR 84). SR 84 begins in San Mateo County and passes through the study area on Vallecitos Road east from I-680 in Alameda County and Pleasanton on to Holmes Street and First Street in Livermore. SR 84 forms a full interchange at I-580 and First Street. Average daily traffic volumes on SR 84 range from 25,000 vehicles in the vicinity of I-680 to 42,000 vehicles on First Street near the I-580 interchange. The Proposed Project and Alternatives would install transmission lines over SR 84 on the Vallecitos Road segment.

SR 84 is currently being relocated along the Isabel Parkway alignment. The Measure B project is under construction and when complete, will extend Isabel Parkway as a two lane arterial between Vallecitos Road to the I-580/Airway Boulevard Interchange. Ultimately, Isabel Parkway is planned as a six-lane parkway with a new full interchange at I-580. The schedule for constructing the full parkway project will depend on the level of future development in the Tri-Valley area and the availability of funding.

Bernal Avenue. Bernal Avenue is a three to four-lane arterial with an average of 10,300 vehicles per day south of Stanley Boulevard. The avenue provides an interchange with I-680 in the vicinity of the Alameda County Fairgrounds. The Proposed Project (South Area) would underground transmission lines on this street between Hearst Drive and East Vineyard Avenue. Bernal Avenue narrows to two lanes at a bridge just north of Vineyard Avenue. The City of Pleasanton is planning to widen the bridge roadway section to four lanes. This improvement project is not currently funded and may not be constructed for several years.

Vineyard Avenue (West). Vineyard Avenue west of Bernal Avenue is a three-lane arterial (one through lane in each direction, plus a median two-way left turn lane). Vineyard Avenue west of Bernal Avenue carries an average of 4,800 vehicles daily.

Placeholder: Figure C.11-1 **Study Area Roadway Network and Transmission Line Paths**

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Placeholder: Figure C.11-1 Study Area Roadway Network and Transmission Line Paths (page 2 of 2**)**

Vineyard Avenue (East). Vineyard Avenue east of Bernal Avenue is a wide four to three-lane arterial (two through lanes in each direction, or a median two-way left turn lane with two through lanes in each direction), with wide curb lanes. It carries about 9,300 daily vehicles and links Bernal Avenue to Isabel Parkway and Vallecitos Road (SR 84) to the east.

The Pleasanton City Council adopted (June 1999) the Vineyard Avenue Corridor Specific Plan. A key element of the plan is the realignment of a 1.5 mile segment of Vineyard Avenue along the Arroyo del Valle. The realignment would start from the west in the area of Clara Lane and continue east in the vicinity of the Ruby Hill development. The new roadway would locate roughly between 500 and 1,000 feet to the northeast of the existing Vineyard Avenue, and be constructed as a two-lane arterial with two bike lanes and a six-foot separated pedestrian/equestrian trail along the north side of the street. The existing Vineyard Avenue would remain paved but closed to through traffic, for use by pedestrians, bicyclists and emergency vehicles. According to City of Pleasanton staff, the realignment project could begin within a year.

Stanley Boulevard. Stanley Boulevard is an east-west divided four-lane arterial (two through lanes in each direction), which carries an estimated 21,500 daily vehicles east of Bernal Avenue and 30,000 daily vehicles in the vicinity of Isabel Avenue. It provides a link between I-680 from the Sunol Boulevard Interchange east to SR 84 (First Street) and on to I-580. Stanley Boulevard provides bicycle lanes and sidewalks on either side of the street.

Union Pacific Railroad (UPRR) tracks run north of and adjacent to Stanley Boulevard in the project area. These tracks are used by freight trains (average six trains daily) serving the gravel quarry operations and other businesses and by passenger rail service (four trains daily). The UPRR tracks continue east through Livermore, past the Lawrence Livermore Laboratory and then north toward the Altamont Pass.

Hearst Drive. Hearst Drive is an east-west undivided collector street (one lane each direction). This street intersects with Bernal Avenue and serves as the main residential collector street in the project area. Hearst Drive is estimated to carry 3,500 vehicles daily and with construction of the Proposed Project (South Area), approximately ½ a mile of this street (between Bernal Avenue and Smallwood Court) would be trenched for underground transmission lines.

Isabel Avenue. As noted in the SR 84 description, Isabel Avenue is currently under construction and will serve as the new alignment for SR 84. The road is being constructed as a two-lane parkway within a six-lane right-of-way between Vallecitos Road to the south and the Airway Boulevard/I-580 Interchange. Isabel Avenue is currently open to traffic between East Vineyard Avenue and Stanley Boulevard. The next phase of the project is constructing an underpass at Stanley Boulevard and the continuation of the two-lane arterial north to the Airway Boulevard/I-580 Interchange.

El Charro Road. El Charro Road is a north-south two-lane arterial. To the north, El Charro Road forms the south leg of the I-580/Fallon Road Interchange. Traveling south, El Charro Road is a private driveway which provides access to the gravel quarry operations. This road is gated at the Stanley

Boulevard intersection. Traffic estimates for the north segment of this road, near the I-580 interchange are an average of 7,000 daily vehicles.

East Jack London Boulevard. East Jack London Boulevard is an east-west four-lane arterial connecting Murrieta Boulevard to Isabel Avenue. The East Jack London Boulevard/Isabel Avenue intersection will be improved as part of the Isabel Parkway project. The City of Livermore's Traffic Impact Fee program includes an extension of Jack London Boulevard west to El Charro Road. This project is currently unfunded and a construction schedule is not available.

Kitty Hawk Road. Kitty Hawk Road is a north-south four-lane arterial segment east of the Livermore Municipal Airport, located between Jack London Boulevard and Airway Boulevard. The street segment is ½ mile long and is within the right-of-way of the Isabel Parkway project.

Airway Boulevard. Airway Boulevard is an east-west three-lane arterial (one lane in each direction, one median left-turn lane) providing an interchange with I-580 in the vicinity of the Livermore Municipal Airport. An estimated daily volume of 22,500 vehicles exit and enter the I-580 freeway at the Airway Boulevard ramps.

North Livermore Avenue. North Livermore Avenue operates as a two-lane rural road in the vicinity of the Proposed Project and Alternatives. This road forms an interchange with I-580 to the south and connects to Camino Tassajara to the north of the Proposed North Livermore substation that would be constructed at North Livermore Avenue and May School Road.

North Vasco Road. North Vasco Road operates as a major two-lane intra-county highway north of Dalton Avenue in the vicinity of the Proposed Project (North Area). Vasco Road travels north through Contra Costa County and links to State Route 4 in Brentwood. To the south, this road provides an interchange with I-580 and further south terminates at Tesla Road.

May School Road. May School Road is a short two-lane rural road, linking North Livermore Avenue with Dagnino Road. The Project proposes the construction of the North Livermore substation near the intersection of North Livermore Avenue and this road.

Raymond Road. Raymond Road is a small rural road located between north Livermore Avenue and North Vasco Road. The L1 Alternative would construct a substation on Raymond Road at Lorraine Road. This Alternative would run about one mile of underground transmission line to the substation from the Contra Costa-Newark Transmission Line Corridor to the east.

Hartman Road. Hartman Road is a small two-lane rural road north of I-580 intersecting with and located west of North Livermore Avenue. This road is identified in the North Livermore Specific Plan as being extended south to the proposed new I-580/Isabel Parkway Interchange. Hartman Road would ultimately be built as a six-lane arterial from Las Positas College and form the north leg of the I-580/Isabel Parkway Interchange. Alternative L2 would underground a section of transmission line

along the Hartman Road right-of-way north from I-580 to an alternative substation site located northeast of the Las Positas College.

Doolan Road. Doolan Road operates as a two-lane rural road in the vicinity of the Proposed Project (North Area transmission line). Traffic volumes were not available for this roadway.

Fallon Road. Fallon Road operates as a two-lane rural road north of I-580 in the City of Dublin. Fallon Road forms the north leg of an existing interchange with I-580. The Fallon Road/I-580 Interchange Improvement Project is currently undergoing environmental review. Improvements to the interchange would include a widening of the Fallon Road/El Charro Road overcrossing to provide two-lanes in each direction and the construction and widening of the interchange ramps. The improvements are expected to be constructed within the existing interchange right-of-way. Phase 1 of the improvements would be the signalization of the existing interchange. The remaining phased improvements are not scheduled and would be driven by local area development and the availability of funds.

Camino Tassajara. Camino Tassajara operates as a north-south, two-lane, intra-county rural arterial in the vicinity of the Proposed Project and alternatives. The estimated daily traffic volume in the vicinity of the Alameda/Contra Costa county line is 8,000 vehicles.

Dougherty Road. Dougherty Road is a north-south, four lane arterial north of I-580. This road carries an estimated 27,000 vehicles daily just north of I-580. Traffic volumes further north on this road in the vicinity of the Proposed Project would be lower. Traffic count data in the project vicinity was not available.

Alcosta Boulevard. Alcosta Boulevard is a north-south, four-lane arterial which provides access to I-80 in San Ramon. This divided arterial serves residential areas in the vicinity of Alternative D2.

C.11.1.1.2 *Existing Traffic Volumes Along Transmission Line Route*

The construction of the Proposed Project or Alternatives transmission lines would encroach on the right-of-way at a number of roadways. During installation of transmission lines typical traffic flows and circulation patterns may be temporarily disrupted. Figure C.11-2 illustrates the existing average daily traffic (ADT) volumes on many of the study roadways. In addition to ADT volumes, Table C.11-1 shows morning and evening peak hour volumes for potentially affected streets. Traffic data was not available for all roadway locations and Table C.11-1 indicates this with a "n/a" designation.

C.11.1.1.3 *Existing Transit Operations*

The study area is served by the Livermore-Amador Valley Transit Authority (LAVTA) which provides fixed-route bus service through its WHEELS system. The bus service is generally limited along roadways paralleling or crossed by the transmission lines. Table C.11-2 lists the existing potentially affected transit routes in the study area.

Table C.11-2 Public Bus Service Near Proposed Transmission Line Routes

Segment Affected	Transit Route	Weekday Peak Hour Headways	Schedule
Proposed Project			
Bernal Ave. between Kottinger Dr. and Vineyard Ave.	Route 8 (Vintage Hills/Dwtn./BART Station) Route 606 (School day service only).	Rt. 8 - 30-40 minutes Rt. 606 – 1 bus AM/1 bus PM	Rt. 8 - Daily, 6:20 A.M. to 7:30 P.M. - Rt. 606 – 1 bus 8AM/1 bus 3:20 PM
Bernal Ave. between Hearst Dr. and Vineyard Ave.	Route 601 (School day service only).	2 trips per day each direction	Rt. 601 – 1 bus 8AM/1 bus 3:20 PM
Altamont Pass Road *(Phase 2)*	ACE Train – UP Tracks	2 morning – 2 evening trains	Daily – 5:20 and 6:25 A.M. – 5:20 and 6:50 P.M.
Alternative S1			
Stanley Blvd. between Bernal Ave. and Isabel Ave.	Rt.10 (Dublin/Pleasanton/Livermore)	15-20 minutes	Weekdays 4:30 A.M. to 12:50 A.M.
Alternative S2			
E. Vineyard Ave between Bernal Ave. and Isabel Ave.	Route 601 (School day service only).	2 trips per day each direction	Rt. 601 – 1 bus 8AM/1 bus 3:20 PM
Alternative L2			
Cross Stanley Blvd. along Isabel Ave.	Rt.10 (Dublin/Pleasanton/Livermore)	15-20 minutes	Weekdays 4:30 A.M. to 12:50 A.M.
Cross Kitty Hawk Rd.	Rt. 12X (Transit Center/Las Positas College/BART	1 hour	Weekdays 4:50 A.M. to 7:50 A.M. and 4:20 PM to 6:20 PM
Stanislaus Corridor Alternative			
Greenville Rd.	Rt. 20X (Livermore Labs/BART)	30 minutes	Weekdays 6:00 A.M. to 6:20 A.M.

Source: WHEELS – Route Map & Schedule, 2000

The Bay Area Rapid Transit District (BART) provides service in the study area to the Dublin/Pleasanton station. LAVTA operates connecting shuttle service to the BART station. BART operates trains to the station seven days a week between 4:00 AM and midnight. BART service is proposed to be extended to Livermore, including stations at West Livermore and Greenville Road. BART has purchased land south of I-580 at the corner of Airway Boulevard/Kitty Hawk Road for the West Livermore station. Alternative L2 would underground transmission lines in this area, however no time schedule is proposed for the new BART station construction. The Greenville Road BART station would be built at the I-580 interchange, which would not be affected by the Proposed Project and Alternatives.

C.11.1.1.4 *Existing Rail Facilities*

The Union Pacific Railroad operates freight trains on railroad tracks throughout the area. The east-west UPRR route located north of Stanley Boulevard provides freight train service to the quarry operations in the project area. Freight train activity averages six daily trains serving the quarry operations north of Stanley Boulevard.

Placeholder: Figure C.11-2 **Average Daily Traffic Volumes within Study Area**

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Placeholder: Figure C.11-2 Average Daily Traffic Volumes within Study Area

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The Altamont Commuter Express (ACE) is a commuter rail service running from Stockton to and from San Jose and Santa Clara operating on UPRR tracks. The ACE has two stations in the Livermore area, one at the Vasco Road overpass (at Brisa Street) and the other at the LAVTA downtown bus transfer facility on South Livermore Avenue. The service operates two round trip trains each weekday. Phase 2 of the Proposed Project would cross over the UPRR tracks used by freight trains and the ACE service in the vicinity of Altamont Pass Road.

C.11.1.1.5 *Existing Bike and Pedestrian Facilities*

The Proposed Project and Alternatives would install transmission lines along roadways which provide bicycle lanes or are signed as bicycle routes. Table C.11-3 shows the classification system used to describe bicycle facilities.

Table C.11-3 - Bicycle Facility Classifications

Class I Bicycle Path	Off-street bike path – separate from vehicle traffic.
Class II Bicycle Lane	Surface street bike lane with striping, dedicated bike lane.
Class III Bicycle Route	Surface street bike route, shared lane with traffic, sign only indicating bike route.

Source: Caltrans Highway Design Manual, Chapter 1000.

Proposed Project – Pleasanton Area

Bicycle facilities located in the Proposed Project route include the following:

- Bernal Avenue – Class II bike lanes, intermittent between Hearst Drive and Stanley Boulevard.
- Vineyard Avenue (West and East of Bernal Avenue) – Class II bike lanes.
- East Stanley Boulevard – Class II bike lanes from Bernal Avenue to Murrieta Boulevard.

Alternative S1

- Isabel Avenue – Class I bike paths on new segment between Vineyard Avenue and Staley Boulevard. Class I bike paths will be constructed along the entire length of the Isabel Parkway between East Vineyard Avenue and I-580 as part of the improvement project currently underway.

Alternative S2

- East Vineyard Avenue - Class II bike lanes, intermittent between Isabel Avenue and Bernal Avenue. The proposed realignment of a 1.5-mile segment of Vineyard Avenue will provide striped bike lanes and will make East Vineyard Avenue a continuous Class II bike facility.

Alternative L2

- East Jack London Boulevard – Class II bike lanes.
- Kitty Hawk Road - Class II bike lanes.
- Airway Boulevard - Class II bike lanes.
- Isabel Parkway – Class I bike paths are planned from Staley Boulevard north to Jack London Boulevard as part of the improvement project that is currently under construction.
- Hartman Road Extension – Class I bike path proposed between North Livermore Avenue and Las Positas College area (North Livermore Specific Plan).

Alternative D1

- No existing or planned bike routes.

Alternative D2

- Dougherty Road – Class I bike path between I-580 and north of Old Ranch Road in San Ramon.
- Alcosta Boulevard – Class III bike route between Montevideo Drive and I-680.
- Pine Valley Road - Class III bike route between Alcosta Boulevard and I-680.

Proposed Phase 2

- [Need information]

Stanislaus Corridor (Phase 2)

- Mines Road - Class II bike lanes.

Brushy Peak Alternative

- No existing or planned bike routes.

C.11.1.1.6 *Existing Aviation Facilities*

The Livermore Municipal Airport is located approximately 3 miles west of central Livermore and is the only aviation facility in the vicinity of the Proposed Project and Alternatives. The existing Vineyard Avenue substation would be the closest point of the Proposed Project to the airport, located just over two miles southwest from western end of the runway. Project Alternatives D1: South Dublin and L2: Hartman Road are physically closest to the airport: Alternative L2 would be underground as it passed the east side of the airport and Alternative D1 would travel along the El Charro Road right-of-way approximately one mile west of the western end of the runway.

The Livermore Municipal Airport is located south of I-580 and is accessed from the Airway Boulevard. The airport is bordered to the north and west by the Las Positas Golf Course and on the east by the Livermore Water Reclamation Plant and Kitty Hawk Road. The airport is a general aviation facility with about 550 aircraft based at the field and averages 650 aircraft operations daily.

C.11.1.2 Applicable Laws, Regulations, and Standards

Construction of the Proposed Project could potentially affect roadway conditions, access, traffic flow, and parking on public streets and highways. Therefore, it will be necessary for the Applicant and/or the construction contractor to obtain encroachment permits or similar legal agreements from the public agencies responsible for each affected roadway. Such permits are needed for roads that would be crossed by the transmission line as well as for the parallel roads where transmission line construction activities would require the use of public right-of-way. For the Proposed Project, the encroachment permits would be issued by Caltrans, Alameda and Contra Costa Counties and the City of Pleasanton. The Alternatives would require permits from Caltrans, Alameda and Contra Costa Counties, and the Cities of Pleasanton, Livermore, Dublin and San Ramon.

Transportation management plans would be required for each location where a roadway would be directly affected by transmission line construction activities, and such plans would be subject to approval by the responsible jurisdictions. These transportation management plans would be required to incorporate the standards and techniques presented in such references as the Caltrans' *Traffic Manual*, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones," the *Work Area Traffic Control Handbook*, and/or the *Standard Specifications for Public Works Construction*, and/or the *Manual on Uniform Traffic Control Devices* (MUTCD), Part VI, "Traffic Controls for Street and Highway Construction, Maintenance, Utility and Emergency Operations," (U.S. Department of Transportation – Federal Highway Administration). The transportation plans would include traffic control measures, methods of advance notification for businesses along the route, telephone numbers to call if there are problems during construction, and other procedures that may be necessary during the construction phase.

The Proposed Project and support structures do not appear to encroach upon air space. However, as described further under Aviation Impacts, if necessary, the project shall comply with all appropriate regulations of the Federal Aviation Administration (FAA), and a Notice of Proposed Construction or Alteration (Form 7460-1) would be required of the applicant pursuant to Federal Aviation Regulations, Part 77.

C.11.2 ENVIRONMENTAL IMPACT ANALYSIS AND APPLICANT PROPOSED MEASURES

C.11.2.1 Introduction

A transmission line or substation is more likely to affect the ground transportation facilities (roadways and railroads) during construction than during operation, because there is generally a minimal amount of surface activity required to operate a transmission line or substation after construction is completed. Consequently, the bulk of the ground transportation analysis is devoted to the potential impacts during the construction phase. Aviation impacts however, could occur during both construction and operation as these impacts are caused by physical impediments to the navigable airspace. The following sections present the construction impact discussion, which is followed by a description of the mitigation measures that could be used to alleviate adverse impacts. The impact classifications (Class I, II, III, and IV), as applied in this section, are defined in Section C.1, Impact Significance Categories. The phrase "affected public agencies" used throughout the discussion refers to the federal, state and local agencies responsible for the roadways and air space that would be impacted by the project; i.e., Federal Aviation Administration, Caltrans, Counties of Alameda and Contra Costa, and the Cities of Pleasanton, Livermore, Dublin, and San Ramon.

C.11.2.2 Definition and Use of Significance Criteria

The traffic/transportation impacts of the Proposed Project would be considered significant if one or more of the following conditions were to occur as a result of transmission line or substation construction or operation. These criteria are based on a review of the environmental documentation for other utility projects in California, as well as on input from staff at the public agencies responsible for

the transportation facilities. Traffic/transportation impacts would be significant under the following conditions:

- The installation of the transmission line within, adjacent to, or across a roadway would reduce the number of, or the available width of, one or more travel lanes during the peak traffic periods, resulting in a temporary disruption to traffic flow and/or increased traffic congestion
- A major roadway (arterial or collector classification) would be closed to through traffic as a result of construction activities and there would be no suitable alternative route available
- Construction activities would restrict access to or from adjacent land uses and there would be no suitable alternative access
- Construction activities would restrict the movements of emergency vehicles (police cars, fire trucks, ambulances, and paramedic units) and there would be no reasonable alternative access routes available
- An increase in vehicle trips associated with construction workers or equipment would result in an unacceptable reduction in level of service on the roadways in the project vicinity, as defined by each affected jurisdiction
- Construction activities would disrupt bus or rail transit service and there would be no suitable alternative routes or stops
- Construction activities within, adjacent to, or across a railroad right-of-way (ROW) would result in a temporary disruption of rail traffic
- Construction activities would impede pedestrian movements or bike trails in the construction area and there would be no suitable alternative pedestrian/bicycle access routes
- Construction activities or staging activities would increase the demand for and/or reduce the supply of parking spaces and there would be no provisions for accommodating the resulting parking deficiencies
- Construction activities would conflict with planned transportation projects in the project area
- An increase in roadway wear in the vicinity of the construction zone would occur as a result of heavy truck or construction equipment movements, resulting in noticeable deterioration of roadway surface
- Construction activities or operation of the project would result in safety problems for vehicular traffic, pedestrians, transit operations, or trains.
- Construction activities or the operation of the Proposed Project or alternatives would interfere with or extend into navigable airspace and could potentially have an impact on aviation activities within the restricted area of a designated airport or helipad.

C.11.2.3 Applicant Proposed Measures

The *Proponent's Environmental Assessment (PEA, 1999)* includes several measures to reduce project impacts during construction. These are described in Table C.11-4 below.

Table C.11-4 Applicant Proposed Measures for Impacts to Traffic/Transportation

Issue	Applicant Mitigation Measure
Traffic Control During Construction	**Mitigation 11.1**. 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.
	Mitigation 11.2. 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.
Construction Procedure	**Mitigation 11.3**. 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.
Notification and Coordination with Appropriate agencies and public.	**Mitigation 11.4**. 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.
	Mitigation 11.5. 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.

Source: Tri-Valley Project PEA, November 1999, Chapter 11.

C.11.3 ENVIRONMENTAL IMPACT AND MITIGATION MEASURES: PLEASANTON AREA

C.11.3.1 Proposed Project

Phase 1 of the Proposed Project located south of I-580 in Pleasanton would modify the existing Vineyard Substation to include a 230 kV transmission interconnection. The Vineyard Substation is located south of and adjacent to Stanley Boulevard, east of Bernal Avenue. The Proposed Project would include the installation of 2.8 miles of new 230 kV overhead, double-circuit transmission line and 2.7 miles of 230 kV underground, double-circuit transmission line connecting to the existing Vineyard Substation. The installation of the overhead portion of the transmission line would cross State Route 84/Vallectios Road. The underground transmission line installation would cause temporary disruptions to local residential streets in terms of road and lane closures, sidewalk and bike lane closures, on-street parking displacement, access restrictions, temporary disruptions to local transit service and increased traffic volumes.

C.11.3.1.1 *Construction (Transmission Line and Substation Upgrade)*

There are two ways that transmission line construction activities would interface with the roadway network. Installation of transmission lines would either cross a roadway or would run parallel to a roadway, within or adjacent to the public right-of-way. Where transmission lines cross a roadway, it would be necessary to temporarily close the facility to through traffic for brief (10-15 minutes) periods. At the locations where the transmission line would run parallel to and/or longitudinally within a

roadway, portions of the roadway that are currently used for traffic circulation and/or parking would be temporarily displaced. Detouring around each construction zone would be necessary.

Substation upgrading activities would temporarily disrupt existing circulation patterns due to construction worker vehicles in the area and equipment and materials delivery activity to and from the site. The total construction work force would average approximately 60 to 70 workers over a 12 month period. Between 40 and 50 workers would be needed during the most active construction period. The workforce vehicle trips generated during this period would be dispersed throughout the project area and would not affect overall traffic operations.

Project traffic related directly to construction activity such as substation construction, tower assembly, conductor stringing, roadway trenching, spoils removal and equipment delivery will likewise be dispersed throughout the area and extend over the duration of the project construction period. Construction activity is not expected to increase overall area traffic volumes to significant levels.

Construction of the Proposed Project in the Pleasanton area would not affect waterborne or air traffic within the project area. The Livermore Municipal Airport is an active general aviation facility located south of I-580. The existing Vineyard Substation is located just over two miles southwest from the west end of the airport runway. The UPRR operates freight trains in the vicinity of the project. The UPRR tracks runs east-west along the north side of Stanley Boulevard serving the quarry operations (average six trains daily). This track is also used for passenger service (four trains daily) by the Altamont Commuter Express (ACE). The Proposed Project in the Pleasanton area would not affect freight or passenger rail operations. Project impacts and mitigation measures are described in greater detail below.

Road and Lane Closures

Impact 11-1: Road closures along 230 kV transmission route.

Table C.11.1 shows the street, highway and freeway segments that project transmission lines would cross. The overhead transmission lines would cross SR 84/Vallecitos Road and would require an encroachment permit issued by Caltrans. According to PG&E Co. it would be necessary to halt through traffic on SR 84 for approximately 10 minutes while cables were strung across the roadway. Requirements of the Caltrans permit restrict highway closures to the period from midnight to 6:00 am on Friday and Saturday. Closure of a state highway must be coordinated with the California Highway Patrol. The closure of SR 84 due to transmission line crossings would be short-term and conducted outside of peak traffic periods and therefore considered less than significant (**Class III).** No mitigation measures are needed.

Impact 11-2: Lane closures along 230 kV transmission route.

The 2.7-mile segment of underground transmission line in the City of Pleasanton would cause temporary lane closure during construction and would reduce the number of lanes for up to 600 feet at a time on Benedict Court, Smallwood Court, Hearst Drive, Bernal Avenue and Vineyard Avenue. A

number of local cul-de-sac streets (Table C.11.1) located off Hearst Drive would also be impacted by the construction of the underground transmission line. Overall, the temporary lane closures would occur over a period of approximately 11 months. The temporary lane closures, increased traffic levels and constrained circulation in the area would result in a potentially significant impacts. Impacts due to lane closures could be mitigated with implementation of Mitigation Measures T-1 through T-3 (**Class II**).

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.

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.

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).

Construction Generated Traffic

Construction of the Proposed Project would generate additional traffic on the regional and local roadways serving the area. Construction worker commute trips, project equipment deliveries and hauling materials such as concrete, clean fill, excavation spoils, and gravel would increase existing traffic volumes in the project area.

Workers commuting to construction sites would increase traffic in the project area. The daily project workforce would consist of 60 to 70 workers[2] over a 12-month period. Between 40 and 50 workers would be needed during the most active period of construction and a estimated 15 to 20 workers[3] would access project laydown sites in the area. Workers would drive personal vehicles to substation sites and laydown area assembly points. Parking for workers vehicles would be provided at the laydown sites. From these points, some workers would drive or ride in project vehicles to work areas along the transmission lines. Transmission line workers would be dispersed throughout the project area and

[2] PG&E Co., Tri-Valley PEA, November 1999
[3] PG&E Co., Tri-Valley – Response to Second Completeness Review, March 16, 2000.

would not typically be working at the same place at any one time. Assuming that each worker would commute to the work site in a personal vehicle and that several construction vehicles would also use the primary roadways in the project area every day, only minimal traffic increases would result relative to existing background levels of traffic.

Haul truck traffic would include trucks carrying equipment and materials, spoils for disposal, and crushed rock or gravel for insulation at the substation sites and construction of access roads. Trips will be made to and from various points along the transmission line routes. The exact routes and scheduling of truck trips are not known at this point.

PG&E Co. estimates 11,000 cubic yards of trenching spoils would be removed from the underground transmission line installation area. This translates to a total 1,100 truck haul trips (average of 12 daily trips) spread out over approximately a six-month construction period. There could also be a smaller number of spoils removal trips from along the transmission lines. The overhead to underground transition structure would require excavation of 1,500 cubic yards of fill (deposited on-site), and delivery of 30 truckloads of concrete over a two week period.

All of the project-related commute traffic and construction truck/equipment activity is expected to be dispersed over the entire project area and dispersed over time. This project traffic could create short-term delays due to construction related vehicle activity but would be less than 1 percent of traffic volumes on study area roadways and would not be expected to create significant operational impacts.

Impact 11-3: Project construction vehicle traffic.

Impacts related to project construction traffic would be temporary and would be considered insignificant (**Class III**). Because no significant impacts have been identified, mitigation measures are not required.

Physical Impacts to Roads and Sidewalks

Equipment used during the project is designed for urban construction, and PG&E Co. does not expect to cause any physical damage to public roads or sidewalks beyond that planned for trenching and excavation operations in specified areas. However, there is the potential for damage that can be mitigated by the following measure that expands on PG&E Co.'s proposed measure.

Impact 11-4: Physical damage to roads and sidewalks.

The impacts would be potentially significant, but reduced to a non-significant level with implementation of Mitigation Measure T-4 below (**Class II**).

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.

Impacts of Construction on Property Access

When construction occurs in the outer lane and/or shoulders of roads, access to driveways would temporarily be blocked by the construction zone, thereby affecting access and parking for the adjacent residences, institutions, businesses and other uses.

Impact 11-5: Restricted access to properties.

In most of the affected areas, impacts would not be significant due to the temporary nature of construction and the location of much of the construction away from public roadways. There is the potential for significant effects on property access for residents and emergency vehicles along the underground transmission route in Pleasanton at Benedict Court, Smallwood Court, Hearst Drive and associated cul-de-sacs and Bernal Avenue. This impact can be reduced to a non-significant level with implementation of Mitigation Measures T-5 and T-6 **(Class II)**.

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 lane/s 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 liason (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.

T-6 PG&E Co. shall schedule construction on or adjacent to sensitive land uses (e.g., hospitals, schools, residences, major employers, 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.

Impacts of Construction on Pedestrian/Bicycle Circulation and Traffic Safety

Pedestrian and bicycle circulation would be affected by the underground transmission line construction activities if pedestrians and bicyclists were unable to pass through the construction zone or if established pedestrian and bike routes are blocked. If project construction is required on the south side

of Hearst Drive, the sidewalk would be temporarily closed during construction. There is no sidewalk on the north side of this street and pedestrian traffic would have to be re-routed for varying periods. Bicyclists who share this road with traffic would face increased hazards due to the construction activities. Bernal Avenue provides sidewalks and Class II bike lanes on both sides of the street and pedestrians and bicyclist could be re-routed away from construction activity.

Impact 11-6: Pedestrian/bicycle circulation.

Disruptions to pedestrian and bicycle circulation are expected to be temporary, and therefore less than significant **(Class III)**. Therefore, no mitigation measures are required.

Impact 11-7: Traffic and bicycle/pedestrian safety.

Additionally, since there may be disruption to bicycle routes, sidewalks, shoulders, and pedestrian crossings, pedestrians and bicyclists may enter the affected streets and highways and risk a vehicular-related accident. This impact is considered to be significant, but mitigable **(Class II)** through the implementation of Mitigation Measure T-7:

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.

Impact of Construction on Emergency Response

Construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The loss of a lane and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone.

Impact 11-8: Emergency Response. This impact is considered to be significant, but mitigable **(Class II)** with implementation of Mitigation Measure T-8:

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.

Impact of Construction Storage Space, Staging Areas and Parking

There would be a need for PG&E Co. to store equipment, such as trucks, auger, dozers, cranes, tractor, skiff, and pumps, at or near the construction sites. PG&E Co. has identified as laydown sites the existing Vineyard substation and property owned by the General Electric Company east of I-680 along SR 84. The trucks and active equipment would likely be parked near the construction zone off-street or in private parking lots, by arrangement with the owner. The storage of construction equipment within the public right-of-way could create temporary significant impacts in terms of lane closures, access restrictions and safety. These impacts could be mitigated to a non-significant level (**Class II**) with implementation of Mitigation Measures T-1 through T-3, T-5 and T-6.

Impact 11-9: Construction storage space and parking.

These impacts could be mitigated to a non-significant level (**Class II**) with implementation of Mitigation Measures T-1 through T-3, T-5 and T-6.

Impact of Construction on Public Transit

Construction of the underground transmission line on Bernal Avenue could disrupt up to three WHEELS bus routes (Route 8, and School Day Service Routes 601 and 606). Potential impacts include scheduling delays and bus stop closures.

Impact 11-10: Public transit – bus service.

Although the road closures on Bernal Avenue would be temporary, impacts to bus operations are expected to be potentially significant but could be mitigated to a non-significant level **(Class II)** with implementation of Mitigation Measure T-9:

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.

Impact of Construction on Rail Operations

No portion of the Proposed Project (South Area) would encroach on existing freight or passenger railroad right-of-way. There would be no impact on local rail operations with the construction of the Proposed Project.

Impact of Construction on Aviation Activities

According to the guidelines of the FAA, construction of the Proposed Project could potentially have a significant impact on aviation activities if a structure, crane, or wire were to be positioned such that it would be more than 200 feet above the ground or if an object would penetrate the imaginary surface extending outward and upward from a public or military airport runway or a helipad. As the maximum height of a crane would be approximately 165 feet, and of a transmission tower about 130 feet, these project components would not extend into navigable airspace unless they were within the restricted area of a designated airport or helipad.

No portion of the Proposed Project comes within one mile of the airport runways. The closest portion of project is the existing Vineyard Substation, which is located just over two miles southwest from the west end of the airport runway. There would be no general aviation impact with the construction of the Proposed Project.

C.11.3.1.2 *Operation and Maintenance (Transmission Line and Substation Upgrade)*

Operation of transmission lines and substations will have no appreciable impact on traffic, as maintenance will be limited to periodic inspections and repairs as necessary. For work with roadways, PG&E Co. would be subject to encroachment permit requirements as for construction.

C.11.3.2 Alternative S1: Vineyard-Isabel-Stanley

This alternative would tap the Contra Costa-Newark (CC-N) line in the Tesla-Newark Corridor near Sycamore Grove Park. A 230kV transmission line would be installed overhead from this point to the corner of Vineyard Avenue and Wetmore Road (approximately 1.2 miles). At this location, the line would transition underground and run along Vineyard Avenue to Isabel Avenue (approximately 1.1 miles). The line would then transition aboveground, and would be installed overhead along the west side of Isabel Avenue to Stanley Boulevard. The overhead line would then turn west and run along the north side of Stanley Boulevard, cross Stanley Boulevard just east of Bernal Avenue, and head into the Vineyard Substation.

Environmental Impacts and Mitigation Measures. The trenching needed to construct this alternative is expected to have a less substantial impact on the physical condition of the roadways and on traffic flows. The underground construction would be less than half that of the Proposed Project and would affect fewer homes. Traffic volumes on East Vineyard Avenue between SR 84 and Isabel are lower than those on Bernal Avenue and there are more options in terms of alternate routes around the trenching activities with this alternative.

This alternative would install overhead transmission lines along Isabel Parkway right-of-way (50 feet west of the road right-of-way). The Isabel Parkway is partially constructed and work is scheduled to continue over the next few years. The construction of Alternative S1 may conflict with ongoing roadway construction. Isabel Parkway is being constructed within a six lane right-of-way to

accommodate future expansion and the overhead lines would have to be positioned outside the future right-of-way or moved at a later date to accommodate roadway expansion.

The installation of overhead transmission lines along the north side of Stanley Boulevard (west) to the Vineyard Substation could interfere with passenger and freight train operations on the UPRR tracks. UPRR currently operates about six daily freight trains in this area and ACE operates four passenger trains daily on these tracks. This alternative would require stringing transmission lines across Stanley Boulevard twice: once at the Isabel Parkway intersection and again, for the west, to connect with the Vineyard Substation. As with the Proposed Project, the impacts would be significant but could be mitigated (Class II) with implementation of mitigation measures T-1 through T-9. In addition, Mitigation Measure T-10 is recommended to reduce potential conflict with Caltrans construction of the Isabel Parkway/SR 84 and Mitigation Measure T-11 to reduce the potential for conflicts with adjacent UP and ACE rail operations. With implementation of these mitigation measures, impacts would be reduced to an insignificant level.

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.

T-11 PG&E Co. shall coordinate with UP RR 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.

C.11.3.3 Alternative S2: Vineyard Avenue

As with Alternative S1, this alternative would tap the Contra Costa-Newark (CC-N) line in the Tesla-Newark Corridor near Sycamore Grove Park (Milepost U12.7) and the 230kV transmission line would be installed overhead from this point to the corner of Vineyard Avenue and Wetmore Road (approximately 1.2 miles). At this location, S2 diverges from S1; the line would transition underground and run along Vineyard Avenue to Bernal Avenue, turn north and continue underground on Bernal Avenue to the Vineyard Substation.

The trenching needed to construct this alternative is expected to have a more substantial and prolonged impact on the physical condition of the roadways and on traffic flows. Diversion of through traffic flows away from Vineyard Avenue and onto Stanley Boulevard and other streets could cause increased traffic delays and increase the potential for operational and safety problems. Alternative S2 could potentially impact the planned realignment of a segment of Vineyard Avenue between Clara Lane to east of the Ruby Hill area. If the alternative and the realignment project were to coincide there would likely be an intensifying of the impacts associated with trenching and earth moving activities. The numbers of construction worker vehicles and construction equipment would be greater in the area and

delays and disruptions would be expected to be of a longer duration than if just one of the projects were under construction. Both projects could proceed at the same time in the area however and each could affect the others schedule, adding to the overall time that Vineyard Avenue is under construction.

Both PG&E Co. and the Vineyard Avenue Corridor Specific Plan developers would be required to obtain an encroachment permit from the City of Pleasanton prior to any construction. The City would then be in the position of ensuring that both projects were coordinating and scheduling construction activities to minimize local impacts.

From a transportation perspective it would be better for Alternative S2 to stay in the existing Vineyard Avenue right-of-way regardless of future realignment plans. The roadway realignment project is not currently scheduled and it could possibly be long after Alternative S2 were built before it got underway. An attempt to follow the proposed realigned roadway prior to it being constructed would require PG&E crews and equipment to trench in an area that is about 1 mile long and between 500 to 1,000 feet north of the existing paved road. The existing segment of Vineyard Avenue scheduled for realignment would be maintained as a paved recreational path providing access for emergency and maintenance vehicles. Which ever route is followed trenching the entire length of Vineyard Avenue between SR 84 and Bernal Avenue would create significant impacts (**Class II**) that could be mitigated to less than significant with the implementation of Mitigation Measures T-1 through T-8 described above.

C.11.3.4 Alternative S4: Eastern Open Space

This alternative would follow the Proposed Project's overhead transmission line from the tap in the Telsa-Newark Corridor, 2.2 miles to a point where it would travel in a northeasterly direction for 1.2 miles, then transition underground for the last 0.7 miles north to Vineyard Avenue. The route would head west (underground) on Vineyard and follow the Alternative S2 route along the south side of Vineyard Avenue and Bernal Avenue into the Vineyard Substation.

The transportation impacts associated with this alternative are similar to but less than those identified for Alternative S2. Alternative S4 would require less trenching of Vineyard Avenue. Impacts associate with this alternative would be temporary but significant (**Class II**) and could be mitigated to less than significant with the implementation of Mitigation Measures T-1 through T-8 described above.

C.11.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: DUBLIN AREA

C.11.4.1 Proposed Project

The Proposed Project in the Dublin Area would construct a new substation in Contra Costa County approximately 0.7 miles east of Camino Tassajara. The proposed Dublin Substation would be connected to another proposed substation in the North Livermore Area to the east with 7.9 miles of overhead transmission line.

C.11.4.1.1 *Construction (Transmission Line and Substation)*

The overhead transmission lines in this area would cross open area primarily used for cattle grazing. During installation, transmission lines would cross over Doolan Road, Collier Canyon Road and run adjacent to Manning Road (all in Alameda County). These roads are rural and carry light traffic levels. PG&E Co. would require encroachment permits from Contra Costa and Alameda Counties for this project area.

Construction of the Dublin Substation would be on a five-acre parcel accessed via local county roads and farm access roads. Some open area would be traversed to reach this site. PG&E Co. would likely improve some existing farm roads and construct less than one mile of gravel road in the area. Most of the new gravel road (0.5 miles) would be to link the site to an existing farm road.

Given the rural setting and the relatively low traffic volumes which characterize this area, no significant traffic impacts would be expected. This section of the project would not interfere with waterborne, air or rail facilities. The local roads and rural arterials that would be crossed by the transmission lines would be closed to through traffic for periods of 10-15 minutes and closure could be scheduled for non-peak traffic periods. The road closures constitute a Class III impact and no mitigation is required. Construction of the substation and installation of the transmission lines could result in physical damage to county and private roadways (**Class II**), as well as temporarily restricting access to private parcels and affect emergency vehicle access in the area (**Class II**). The application of Mitigation Measures T-1 through 5 and T-8 should reduce potential impacts to a less than significant level.

C.11.4.1.2 *Operation and Maintenance (Transmission Line and Substation)*

Operation of transmission lines and the substation will have no appreciable impact on transportation, as maintenance will be limited to periodic inspections and repairs as necessary. For work with roadways, PG&E Co. would be subject to encroachment permit requirements as for construction.

C.11.4.2 Alternative D1: South Dublin

This alternative would connect the existing Vineyard Substation to an alternative location for the Proposed Dublin Substation, located north of I-580, between Fallon and Tassajara Roads (part of the Dublin Ranch Specific Area Plan). An aboveground 230kV transmission line would cross Stanley Boulevard and travel north from the Vineyard Substation to Busch Road. The line would travel east along Busch Road, then turn north and follow a truck haul route through the gravel quarries, to El Charro Road. The line would then follow El Charro Road north to I-580, where it would transition underground across I-580 and continue west to connect to the proposed substation.

This alternative would have fewer transportation impacts compared to the Proposed Project. The alternative's transmission lines would traverse open areas through gravel quarry operations and along portions of El Charro Road south of I-580. After crossing over Stanley Boulevard and the UPRR tracks (Class III impacts), the overhead transmission line would cross over and follow a low volume service road (Busch Road), a private gravel haul road and a private access road (El Charro Road). The

transmission line would be bored underground beneath I-580 and connect to the substation north of I-580 and west of Fallon Road.

The City of Dublin and Caltrans are currently studying the I-580/Fallon Road Interchange. Improvements to this facility include a widening of the overpass and upgrading of the ramp system. All improvements would occur within the existing interchange right-of-way, therefore this Alternative Phase 1 improvements would signalize the current interchange and make minor improvements to the existing overpass and ramps. Phase 1 improvements are not currently scheduled but could be installed in approximately 2-3 years.

This alternative would not disrupt any residential streets nor would it interfere with transit operations (other than a brief off-peak delay on the UPRR track). The transmission lines would be 1 mile west from the west end of the airport runway and outside the restricted airspace area. Impacts associated with this alternative would be considered adverse but not significant (**Class III**) and therefore no mitigation measures would be warranted. PG&E would require encroachment permits from the City of Pleasanton, Alameda County and Caltrans in order to construct this alternative.

C.11.4.3 Alternative D2: Dublin-San Ramon

Under this alternative, the proposed Dublin Substation would connect to the existing San Ramon Substation. To make this connection, an aboveground 230kV line would travel east from the San Ramon Substation (following a vacant PG&E Co. ROW), crossing Alcosta Boulevard, Dougherty Road and Tassajara Road. The westernmost section of the transmission line would be installed underground for approximately one mile from a ridge line into the San Ramon Substation. This alternative would eliminate a need for construction of the 230kV line west of North Livermore Road, but may require reconductoring of the San Ramon-Pittsburg transmission line to increase power into San Ramon (approximately 20 miles). This alternative would also require minor upgrades to the San Ramon Substation.

Alternative D2 would affect just three arterials with overhead transmission lines and would not affect any transportation facilities with underground transmission lines. The transportation impacts would similar to those associated with the project however the impacts in terms of disrupting circulation and access could potentially be significant (**Class II**) but could be mitigated to less than significant with implementation of Mitigation Measures T-1 through T-5 and T-8 as described above.

C.11.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: NORTH LIVERMORE AREA

C.11.5.1 Proposed Project

The Proposed Project in the North Livermore Area would construct a new substation in Alameda County at the northeast corner of the intersection at North Livermore Avenue and May School Road. The new substation would be connected to the other proposed substation in the Dublin Area to the west and to the Contra Costa-Newark Transmission Line Corridor approximately two miles to the east of

overhead transmission line. The North Livermore segment extends from the MP B13.2 to B 10.4 in Alameda County.

C.11.5.1.1 *Construction (Transmission Line and Substation)*

The overhead transmission line in this area would travel north along the west side of North Livermore Avenue from the substation at May School Road for 1 mile. The overhead transmission lines would then travel east for two miles and connect to the Contra Costa Newark Transmission Corridor. During installation, transmission lines would parallel and cross over North Livermore Avenue. This road is a rural arterial with a relatively low volume of daily traffic. Installation of the transmission line could result in temporary lane closure impacts and restricted access to private property and emergency vehicles (**Class II**) on North Livermore Avenue and May School Road. PG&E Co. would require an encroachment permit from Alameda County for this project area.

This section of the project would not interfere with waterborne, air or rail facilities. The local roads and rural arterials that would be impacted by the transmission lines would be closed to through traffic for periods of 10-15 minutes and closure could be scheduled for non peak traffic periods. The road closures constitute a **Class III** impact and no mitigation is required. Construction of the substation and installation of the transmission lines could result in physical damage to county and private roadways (**Class II**), and could result in temporarily restricting access to private parcels and affect emergency vehicle access in the area (**Class II**). The application of Mitigation Measures 1 through 5 and 8 should reduce potential impacts to a less than significant level.

C.11.5.1.2 *Operation and Maintenance (Transmission Line and Substation)*

Operation of transmission lines and the substation will have no appreciable impact on transportation, as maintenance will be limited to periodic inspections and repairs as necessary. For work with roadways, PG&E Co. would be subject to encroachment permit requirements as for construction.

C.11.5.2 P1 Variant Alternative

This alternative is identical to the Proposed Project, except that the 230kV transmission line along the west side of North Livermore Road would be installed underground (approximately one mile). This alternative would require two overhead/underground transition stations (one for each circuit), which would be located at the southwest corner of North Livermore Road and Manning Road. The impacts would be similar to those of the Proposed (above-grade) alignment, but there would be more extensive adverse effects on motor vehicle, pedestrian/bicycle circulation, and property access due to the need for trenching adjacent to the roadway. These impacts would be potentially significant (Class II) but could be reduced to non-significant levels with the application of Mitigation Measures 1 through 5 and 8.

C.11.5.3 P2 Variant Alternative

This alternative also follows the route of the Proposed Project, with the underground installation of two components: (1) the 230kV transmission line along the west side of North Livermore Road

(approximately one mile, same as P1), and (2) the 230kV transmission line between the CC-N line (near Milepost B10.4) and approximately Milepost B13.2 (approximately 2.8 miles).

The impacts would be similar to those of the Alternative P1 alignment, with slightly increased extensive adverse effects on motor vehicle, pedestrian/bicycle circulation, and property access due to the need for additional trenching. However, these potentially significant (**Class II)** impacts could be reduced to non-significant levels with implementation of Mitigation Measures 1 through 5 and 8.

C.11.5.4 Alternative L1: Raymond Road

This alternative would tap the aboveground Contra Costa-Newark (CC-N) line at the northeast corner of Ames Street and Raymond Road. The line would transition underground at that location, and would travel west (along the north side of Raymond Road) to an alternative substation site, located just east of the intersection with Lorraine Road.

This alternative would result in temporary lane closures on Raymond Road due to trenching and could temporarily obstruct full access to Ames Street and Dagnino Road due to construction of the substation. The impacts associated with this alternative would be limited but potentially significant (**Class II**) and could be reduced to non-significant levels with the implementation of Mitigation Measures T-1 through T-4.

C.11.5.5 Alternative L2: Hartman Road

This alternative would follow the S1 Alternative to Stanley Boulevard, but continue north from that point. The line would transition aboveground, and would be installed overhead along the west side of Isabel Avenue (past Stanley Boulevard), continuing north along the Highway 84 corridor to Jack London Boulevard. At this location, the line would again transition underground, and head west along Jack London Boulevard to a point just west of the Water Reclamation Plant and east of the airport runways. The line would turn and travel north past the airport runways, then head northeast, crossing Airway Boulevard, Lindbergh Avenue and Kitty Hawk Road. Continuing northeast, the line would cross I-580 at the location that the future Hartman Road would cross, and continue approximately one mile to an alternative substation site east of Las Positas College.

The L2 alternative would increase the significant adverse transportation impacts of the Proposed Project segment, and would not have any transportation advantages. The roads affected by this alternative carry heavier traffic volumes, and the route from East Jack London Boulevard north to I-580 could interfere with Caltrans construction in the Isabel Parkway corridor. The alternative would be installed underground and out of the Isabel Parkway right-of-way throughout most of this area, however should construction schedules coincide then the impacts from both projects would overlap and create a potential for longer delays and disruptions to the circulation system in the area of the airport and I-580 at Airway Boulevard. The transmission lines would be underground from East Jack London Boulevard past the airport runways and the follow a northeast route from Airway Boulevard under I-580 toward Las Positas College. This northeast route from I-580 follows the proposed right-of-way for the new Isabel Parkway/I-580 Interchange and for the extension of Hartman Road, which is proposed as a six-

lane arterial that would form the north leg of the new interchange. The Hartman Road extension is proposed as an infrastructure improvement in support of North Livermore Specific Area Plan development. The schedule for the development of the specific area plan is unknown at this time.

The project would be underground past the airport runways and the overhead transmission lines installed approximately ½ mile to the south would be out of the runway paths and not expected to encroach on restricted airspace. Impacts associated with this alternative would include traffic disruptions, disruptions to bicycle and pedestrian circulation and transit operations. These impacts would be temporary but potentially significant (**Class II**). Impacts could be mitigated to less than significant levels with the implementation of Mitigation Measures T-1 through T-10 as described above.

C.11.6 ENVIRONMENTAL IMPACT AND MITIGATION MEASURES: TESLA CONNECTION (PHASE 2)

C.11.6.1 Proposed Project – Phase 2

Phase 2 of the Proposed Project would install 10 miles of 230 kV overhead, double-circuit transmission line from the existing Tesla Substation to juncture with the Proposed Phase 1 line in the North Area, at the Contra Costa-Newark Transmission Line Corridor (MP B 10.4). This segment would primarily traverse open area and the transportation impacts associated with the Proposed Phase 2 transmission line installation would be temporary and mitigated to less than significant status.

C.11.6.1.1 *Construction (Transmission Line and Substation Connection)*

The Proposed Phase 2 overhead transmission lines would cross over the UPRR tracks in the vicinity of Altamont Pass Road (between mile markers B5 and B6) resulting in a temporary closure of rail operations in the area. The overhead transmission line would cross over a number of rural roadways and I-580 in unincorporated East Alameda County. Traffic impacts would be limited to short duration (10-15 minutes) roadway/freeway closures to through traffic during off-peak hours, resulting in less than significant impacts (**Class III**). PG&E Co. would require encroachment permits from Contra Costa County and Caltrans.

Construction of the transmission lines could result in physical damage to county and private roadways (Class II), and could result in temporarily restricting access to private parcels and affect emergency vehicle access in the area (**Class II**). The application of Mitigation Measures T-1 through T-5 and T-8 should reduce potential impacts to a less than significant level.

C.11.6.1.2 *Operation and Maintenance (Transmission Line and Substation Connection)*

Operation of transmission lines and the substation will have no appreciable impact on transportation, as maintenance will be limited to periodic inspections and repairs as necessary. For work with roadways, PG&E Co. would be subject to encroachment permit requirements as for construction.

C.11.6.2 Brushy Peak Alternative

This alternative modifies a small portion of the Proposed Phase 2 route, just east of Vasco Road. At this location, the transmission line would be directed south, to a point near the future entrance of the

Brushy Peak Preserve, then travel east to reconnect with the Proposed route. As with the Proposed Phase 2 route, the Brushy Peak Alternative route would cross Laughlin Road.

This alternative shifts a portion of the Phase 2 overhead transmission line in a relatively undeveloped preserve area. The transmission lines would cross over one rural arterial (Laughlin Road) in the area. This alternative would not have significant impacts on transportation (**Class III**) and therefore no mitigation measures are necessary.

C.11.6.3 Stanislaus Corridor

This alternative would construct a new 230 kV double circuit line from Tesla Substation to the selected alternative tap point at either Milepost V17 for the proposed route or S4 Alternative or at Milepost V14 for the S1 or S2 Alternatives. The Tesla to proposed route or S4 Alternative is approximately 17 miles long and the S1 and S2 Alternative routes would be 14 miles long. The new lines would be installed in an established transmission corridor. At Tesla Junction the transmission line would turn northerly, for 2.1 miles and travel overhead into the Telsa Substation. The overhead transmission lines would crossover Arroyo, Mines, Tesla, Greenville, Patterson Pass and Cross Roads within unincorporated Alameda County.

C.11.6.3.1 *Operation and Maintenance (Transmission Line and Substation Connection)*

Operation of transmission lines and the substation will have no appreciable impact on transportation, as maintenance will be limited to periodic inspections and repairs as necessary. For work with roadways, PG&E Co. would be subject to encroachment permit requirements as for construction.

C.11.7 MITIGATION MONITORING PROGRAM

Table C.11-5 presents the mitigation measures recommended in this section and outlines the location, responsible party, required monitoring activities, effectiveness criteria, and timing of each monitoring activity.

Table C.11-5 Mitigation Monitoring Program

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Construction of the Proposed Project would require lane closures on these roadways (**Class II**).	**T-1** PG&E Co. shall submit traffic control plans to City of Pleasanton and Alameda County and obtain traffic encroachment permits. Construction will be done outside peak traffic hours.	Along Benedict Ct. Smallwood Ct. Hearst Dr. Bernal Ave	Review documentation of: PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.	If traffic flows are generally maintained without severe congestion.	CPUC, City of Pleasanton Public Works Dept. and Alameda County.	Prior to and during construction.
	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					
	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					
Physical damage to roads and sidewalks (**Class II**)	**T-4** Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces; road maintenance program shall be established and implemented.	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	After construction is completed on each affected roadway.
Restricted Access to Properties (**Class II**)	**T-5** PG&E Co. should 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.	Along the ROW, and all locations where access to adjacent land use is blocked.	Review documentation identifying land uses, and consultation efforts of PG&E Co. with all affected owners and tenants.	If access and parking needs of the adjacent land uses are met.	CPUC and local jurisdictions.	Prior to finalization of construction plans.
	T-6 PG&E Co. shall schedule construction on or adjacent to sensitive land uses (hospitals, schools, residences, major employers, recreational areas, etc.) so that at least one access driveway is left unblocked during all business hours or hours of use.	Above	Above	Above	Above	Above

Table C.11-5 Mitigation Monitoring Program

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Construction of the Proposed Project would require lane closures on these roadways (**Class II**).	**T-1** PG&E Co. shall submit traffic control plans to City of Pleasanton and Alameda County and obtain traffic encroachment permits. Construction will be done outside peak traffic hours.	Along Benedict Ct. Smallwood Ct. Hearst Dr. Bernal Ave	Review documentation of: PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.	If traffic flows are generally maintained without severe congestion.	CPUC, City of Pleasanton Public Works Dept. and Alameda County.	Prior to and during construction.
Disruption to Pedestrian and Bicycle (**Class III**) and Disruption to Traffic and Bicycle/Pedestrian Safety (**Class II**)	**T-7** Provide alternative pedestrian and bicycle access routes with appropriate signs and markings, subject to approval by the affected public agency.	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. conformation 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.	Prior to and during construction.
Emergency response vehicles could be blocked or impeded by construction activities (**Class II**)	**T-8** Advance notification and coordination with emergency service providers. Remain prepared to immediately provide emergency access for any property isolated by construction activities.	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).	Prior to and during construction.
Disruption to scheduled public and school bus service.	**T-9** Advance notification and coordination with Joint Unified School District and LAVTA . Temporarily relocate bus stops, or reroute buses.	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. conformation 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.	Prior to and during construction.
Alternative S1: Vineyard-Isabel-Stanley						
Conflict with Caltrans construction **(Class II)**	**T-10** Overhead transmission lines installed on west side and clear of the six-lane right-of-way.	Along Isabel Parkway right-of-way	Review project plans to verify pole locations	Caltrans activities will not be affected by project	CPUC, Caltrans	Prior to construction
Potential impacts to UP railroad (**Class II**)	**T-11** PG&E Co. to coordinate with UP and ACE to obtain necessary easements and coordinate construction timing with rail operations. **T-1** through **T-9** (see above)	Pleasanton Along Stanley Boulevard.	CPUC to review PG&E Co. documentation of coordination	Railroad use is not affected by project construction	CPUC	Before and during construction
Alternative S2: Vineyard						
	T-1 through **T-8** (see above)					Prior to

Table C.11-5 Mitigation Monitoring Program

Impact (Class)	Mitigation Measure	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Construction of the Proposed Project would require lane closures on these roadways (**Class II**).	**T-1** PG&E Co. shall submit traffic control plans to City of Pleasanton and Alameda County and obtain traffic encroachment permits. Construction will be done outside peak traffic hours.	Along Benedict Ct. Smallwood Ct. Hearst Dr. Bernal Ave	Review documentation of: PG&E Co. coordination with affected public agencies; and PG&E Co. conformation to all required conditions.	If traffic flows are generally maintained without severe congestion.	CPUC, City of Pleasanton Public Works Dept. and Alameda County.	Prior to and during construction.
						construction
Alternative LG: Local Generation						
	T-1 through **T-8** (see above)					
Alternative D1: South Dublin						
	T-1 through **T-4** and **T-8** (see above)					
Alternative D2: Dublin – San Ramon						
	T-1 through **T-5** (see above)					
Variant P1:						
	T-1 through **T-9** (see above)					
Variant P2:						
	T-1 through **T-9** (see above)					
Alternative L1: Raymond Road						
	T-1 through **T-4** (see above)					
Alternative L2: Las Positas College						
	T-1 through **T-10** (see above)					
Alternative T1: Tiger Creek Reconductoring						
	No Mitigation Required **(Class III)**					
Brushy Creek Alternative:						
	No Mitigation Required **(Class III)**					
No Project Alternative:						
	No Mitigation Required					

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