4.11 NOISE

This section describes existing sources of noise in the proposed project area and evaluates whether noise generated from construction, operational, and maintenance of the project elements would result in impacts on sensitive noise receptors in the project area. Project elements include the proposed substation, the addition of overhead and underground power lines between Miguel Substation and the proposed substation, modifications at Miguel Substation, and temporary work areas.

4.11.1 Noise Concepts

Noise is generally defined as unwanted sound and is an undesirable byproduct of human society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities including sleep, speech, recreation, and tasks requiring concentration or coordination, or when it causes actual physical harm or has adverse effects on the health of the environment.

Metrics

Sound is an air pressure fluctuation that travels through many types of materials, including air. Sound levels are measured and expressed in decibels (dB), with 0 dB corresponding to the threshold of human hearing (Ray 2010). Most audible sounds are comprised of several pressure variations with different phases, frequencies, and amplitudes (Hansen 2001).

Individual dB ratings for different noise sources cannot be added directly to give the sound level for the combined noise from all sources. Instead, the combined noise level produced by multiple noise sources is calculated using logarithmic summation. For example, if one noise source produces a noise level of 80 A-weighted decibels (dBA), then two of the identical sources side by side would generate a combined noise level of 83 dBA, or an increase of only 3 dBA.

Because of the time-varying nature of environmental sound, there are various descriptors used to quantify the decibel level of sound experiences. The noise metric that considers both duration and sound level is the equivalent noise level (Leq). The time of day in which noise occurs is also important since noise that occurs at night tends to disturb people more than noise that occurs during the day. Two commonly used noise metrics are the Day-Night average level (Ldn) and the Community Noise Equivalent Level (CNEL), which weight hourly Leqs over a 24-hour period. Noise descriptors that are used in this analysis are described below.

A-weighted Sound Level

Since people are less sensitive to low and high frequencies, the decibel scale is adjusted (A-weighted, or dBA) to reflect the normal hearing sensitivity range for humans. The de-emphasis of very low and high frequencies mimics the frequency response of the human ear and correlates well with subjective reactions to noise (Caltrans 1998). A-weighting therefore assists in the analysis of how humans respond to sound and noise. Typical A-weighted noise levels measured in the environment and in industry settings are shown on Table 4.11-1.

Table 4.11-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	**70**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**60**	
		Large business office
Quiet urban daytime	**50**	Dishwasher in next room
Quiet urban nighttime	**40**	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: Caltrans 2013

Statistical Noise Descriptor

A statistical noise descriptor provides information on how frequently a sound level is equaled or exceeded. Community noise levels vary continuously and statistical noise descriptors are used to describe the time-varying character of environmental noise. The statistical noise descriptors L_{10}, L_{50}, and L_{90} are the A-weighted sound levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of a stated time period, respectively. A single numerical descriptor called L_{eq} is also widely used. L_{eq} is the average A-weighted sound level during the entirety of a stated time period (Caltrans 2009).

Community Noise Equivalent Level/Day Evening Night Sound Level
The Community Noise Equivalent Level (CNEL), also called the Day Evening Night Sound Level (L_{den}), is the average A-weighted noise level during a 24-hour day obtained after the addition of 5 dB in the evening from 7 PM to 10 PM and addition of 10 dB to sound levels in the night between 10 PM and 7 AM (Caltrans 1998). CNEL takes into account people's heightened sensitivity during the evening hours and even more heightened sensitivity during the late night and early morning hours.

Day-night Average Sound Level
The day-night average sound level (L_{dn}) is the average A-weighted noise level during a 24-hour day obtained after the addition of 10 dB from 10 PM to 7 AM The L_{dn} takes into account people's heightened sensitivity to noise at night. Exterior background noises and noise levels inside buildings are generally lower at night. This reduced noise level causes other noises to become far more noticeable, as there is less background noise to drown them out.

Noise Attenuation
Most noise sources can be classified as either point sources, such as stationary equipment, or line sources, such as a roadway. Sound generated by a point source nominally diminishes (attenuates) at an approximate rate of 6 dBA for each doubling of distance away from the source. For example, a 60 dBA noise level measured at 50 feet from a point source would be approximately 54 dBA at 100 feet from the source and 48 dBA at 200 feet from the source. Noise from a line source nominally attenuates at approximately 3 dBA per doubling of distance.

Groundborne Vibration

Vibration is the physical manifestation of energy carried through the earth and structures. Groundborne vibration consists of rapidly fluctuating motions or waves and has the potential to annoy people and damage buildings. Low-level vibrations can also cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is little risk of actual structural damage.

Construction activities can produce varying degrees of ground vibration, depending on the equipment and methods employed. Ground vibrations from construction activities very rarely reach levels high enough to cause damage to structures, although special consideration must be made in cases where fragile historical buildings are near the construction site.

Metrics

The most common measure used to quantify vibration amplitude is the peak particle velocity (PPV), defined as the maximum instantaneous peak of the vibratory motion. PPV is typically used in monitoring blastings and other types of construction-generated vibration, since it is related to the stresses experienced by building components.

4.11.2 Environmental Setting

This section provides a description of existing ambient noise levels and sensitive noise receptors near the various components of the project.

Existing Noise Conditions

Ambient noise levels within the project vicinity are influenced primarily by vehicular traffic and aircraft flyovers. A community noise survey was conducted on June 5 and 6, 2012, to characterize the existing noise environment for the project area. The noise survey remains representative of current noise conditions because the land uses in the project vicinity have not changed since the survey was conducted in 2012.

The survey consisted of short-term noise measurements (20 minutes) to document ambient noise levels within noise-sensitive communities at eight locations near the project corridor. The selected noise survey locations are characteristic of the noise environment for the land use types in the project vicinity, including residential neighborhoods, rural open spaces, SR-125, and uses near roadway arterials. Table 4.11-2 presents the survey results, and Figures 4.11-1 and 4.11-2 show the noise survey locations.

Noise-sensitive Receptors

Noise-sensitive land uses are areas where an excessive amount of noise would interfere with normal activities. Noise-sensitive receptors generally include residences, educational facilities, places of worship, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreation areas. Noise sensitive receptors near the project include residences, schools, a church, and recreation areas (Figures 4.11-1 and 4.11-2). Distances from each project element to the nearest residence and school are presented in Table 4.11-3. The Parkway Hills Church of Nazarene is located 319 feet from select TL 6965 work areas.

Table 4.11-2 Daytime Ambient Noise Levels in Project Corridor

Site	Location	Primary Noise Source	A-Weighted Sound Level (dBA)			
			Leq	Lmin	Lmax	L90
1	San Miguel Avenue	Vehicles	60.3	49.3	71.7	53.7
2	Corte Anacapa	Aircraft	48.1	35.9	61.4	37.8
3	Mountain Miguel Road	Vehicles	54.5	38.3	67.6	42.8
4	Calle La Marina	Vehicles	47.4	39.9	61.0	41.2
5	Mountain Ridge Road	Vehicles	50.5	37.9	66.0	40.2
6	Eastlake Drive	Vehicles	57.0	42.6	71.6	46.8
7	St. Germain Road	Vehicles	47.0	39.5	57.2	42.4
8	Hunte Parkway	Vehicles	50.1	36.1	68.2	38.3

Notes:
L_{min} = minimum noise level
L_{max} = maximum noise level

Source: SDG&E 2013

Figure 4.11-1 Noise Survey Locations and Sensitive Receptors (1 of 2)

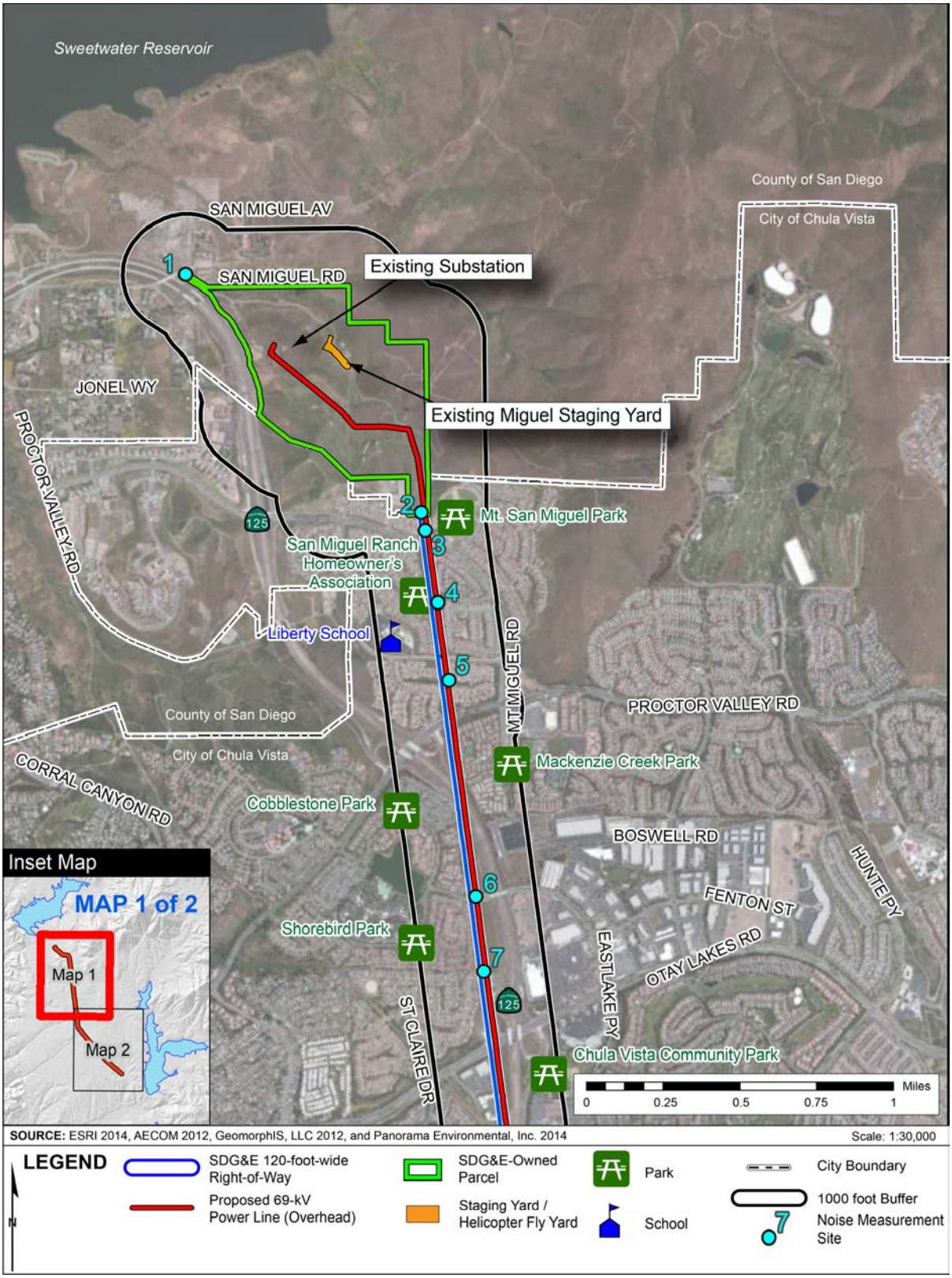


Figure 4.11-2 Noise Survey Locations and Sensitive Receptors (2 of 2)

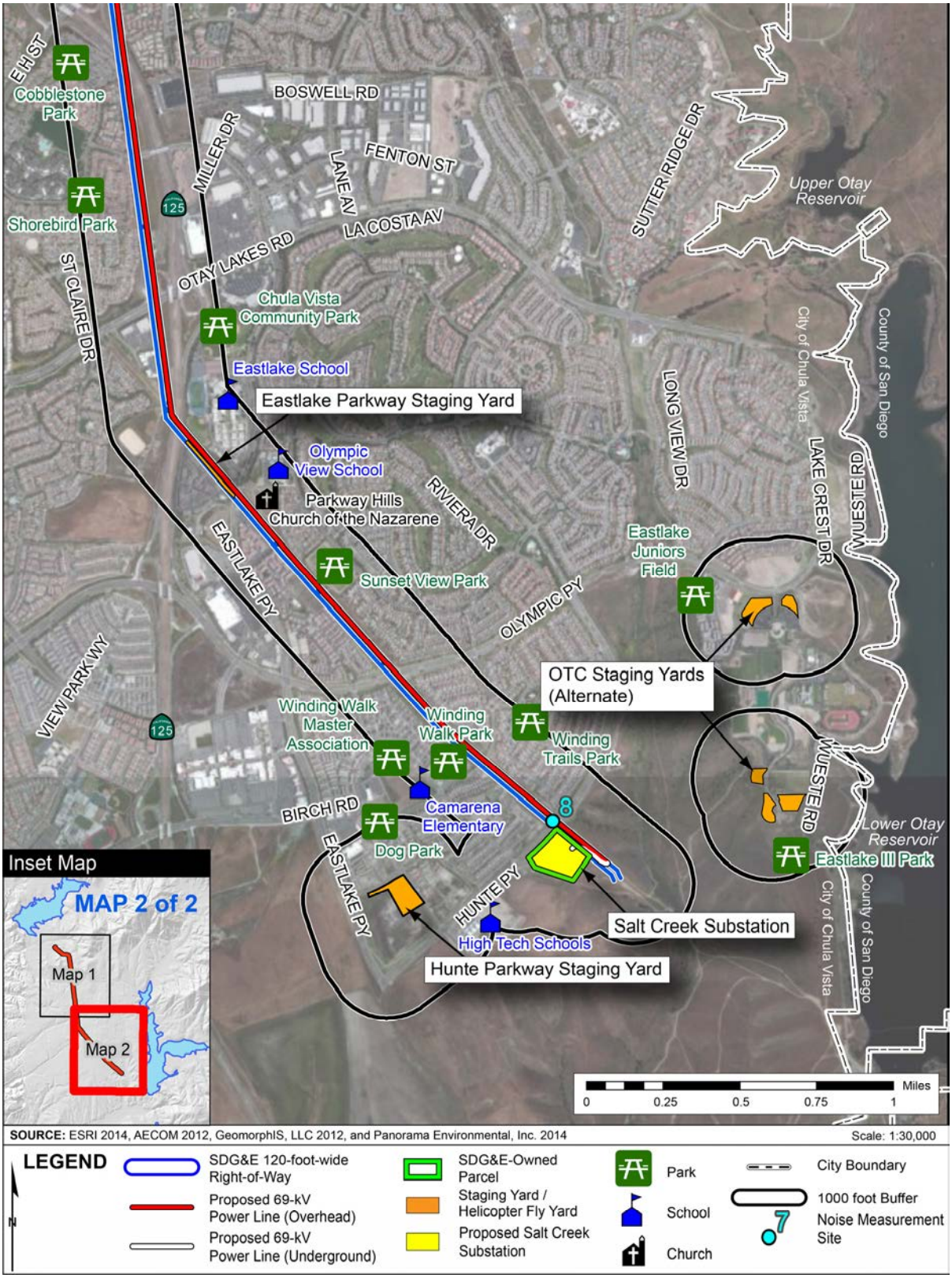


Table 4.11-3 Distance to Sensitive Receptors

Project Element	Distance to Closest Residence	Distance to Closest School	Distance to Closest Recreational Area
Proposed Substation	233 feet	1,024 feet High Tech Schools	1,936 feet Winding Walk Park
TL 6965 Work Areas	20 feet (Foundation Pole 28)	123 feet Eastlake High School (Foundation Pole 22)	23 feet Mount San Miguel Park (Directly Embedded Pole 34)
Miguel Substation	1,875 feet	3,268 feet Liberty School	1,508 feet Mount San Miguel Park
Hunte Parkway Staging Yard	120 feet	658 feet High Tech Schools	987 feet Dog Park
Eastlake Parkway Staging Yard	70 feet	173 feet Eastlake High School	1,469 feet Chula Vista Community Park
OTC Staging Yard (Northern Option)	82 feet	4,917 feet Arroyo Charter School	817 feet Eastlake Junior Field
OTC Staging Yard (Southern Option)	2,064 feet	4,827 feet High Tech Schools	54 feet Eastlake Park III

4.11.3 Regulatory Setting

Federal

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act of 1970 governs worker exposure to noise levels. Title 29 of CFR, Section 1910.95 limits worker exposure to noise levels of 85 dB or lower over an 8-hour period. Additionally, this regulation also establishes maximum impulse or impact noise (e.g., blasting noise) of 140 dB peak sound pressure level.

State

California Noise Exposure Regulations

The State of California addresses worker exposure to noise levels through the California Noise Exposure Regulations and Title 8 of CCR, Section 5095. These regulations limit worker exposure to noise levels of 85 dB or lower over an 8-hour period. The State of California has not established noise levels for various non-work-related environments.

Local

Pursuant to GO 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of the proposed project, and local land use regulations would not apply to the proposed project. The following general plan policies and noise ordinance standards are provided for information purposes and are generally used for evaluation of impacts.

County of San Diego General Plan

County of San Diego exterior noise-level standards for non-transportation noise sources are specified in the General Plan's Noise Element (County of San Diego 2011). The County uses

these noise standards to determine the compatibility of land uses when evaluating proposed development projects and to reduce conflicts between noise and land use. Table 4.11-4 lists the exterior noise-level standards for non-transportation noise sources.

The County of San Diego General Plan's Noise Element specifies policies to minimize exposure of sensitive land uses to the harmful effects of excessive groundborne vibration (Policy N-3.1).

Policy N-3.1 Groundborne Vibration. Use the Federal Transit Administration and Federal Railroad Administration guidelines, where appropriate, to limit the extent of exposure that sensitive uses may have to groundborne vibrations from trains, construction equipment, and other sources.

Per Policy N-3.1, the County of San Diego defers to the Federal Transit Administration (FTA) and Federal Railroad Administration (FRA) guidelines for construction vibration to avoid harmful effects from excessive groundborne vibration. The criteria developed by FTA are in the range of 0.12 to 0.5 PPV for structural damage depending on the fragility of the structure of concern. Table 4.11-5 provides FTA's construction vibration damage criteria for various structural categories.

County of San Diego Noise Abatement and Control Regulatory Ordinances

County of San Diego Noise Control and Abatement Regulatory Ordinance specifies sound level limits for land uses (Section 36.404), hours of operation for construction equipment

Table 4.11-4 County of San Diego Noise Compatibility Guidelines

	Land Use Category	Exterior Noise Level (CNEL)		
		Acceptable	Conditionally Acceptable	Unacceptable
A	Residential: single-family residences, mobile homes, senior housing, convalescent homes	<60	60 – 75	>75
B	Residential: multi-family residences, mixed-use (commercial/residential)	<65	65 – 75	>75
C	Transient lodging: motels, hotels, resorts	<65	65 – 75	>75
D	Schools, churches, hospitals, nursing homes, childcare facilities	<65	65 – 75	>75
E	Passive recreational parks, nature preserves, contemplative spaces, cemeteries	<65	65 – 75	>75
F	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation	<70	70 – 75	>75
G	Office/professional, government, medical/dental, commercial, retail, laboratories	<70	70 – 75	>75
H	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair	<70	>70	N/A

Source: County of San Diego 2011

Table 4.11-5 FTA Construction Vibration Damage Criteria

Building Category	PPV (inches/second)
Reinforced-concrete, steel or timber (no plaster)	0.5 PPV
Engineered concrete and masonry (no plaster)	0.3 PPV
Non-engineered timber and masonry buildings	0.2 PPV
Buildings extremely susceptible to vibration damage	0.12 PPV

Source: FTA 2006

(Section 36.408), sound level limitations on construction equipment (Section 36.409), and sound level limitations on impulsive noise (Section 36.410).

Section 36.404 of the County Regulatory Ordinance specifies the exterior noise limits by receiving land use. Table 4.11-6 presents the sound level limits for relevant land use categories.

Section 36.408 prohibits the operation of construction equipment between the hours of 7 PM and 7 AM, Monday through Saturday, and anytime on Sundays and holidays. Further, the operation of construction equipment cannot exceed 75 dB for an 8-hour period between 7 AM and 7 PM (Section 36.409). Construction activities within the County would be required to occur outside of these prohibited times and within the designated sound level threshold.

Table 4.11-6 County of San Diego Sound Level Limits

Zone	Time Period	1-Hour Average Sound Level Limit (dBA)
Residential use: single-family (RS), duplex/two-family (RD), rural (RR), mobile home (RMH), variable family (RV), urban residential (RU) with a density of less than 11 dwelling units per acre **Agricultural use**: limited (A70), general (A72) **Special purpose use**: open space (S80), ecological resource area (S81), holding area (S90), general rural (S92)	7 AM to 10 PM 10 PM to 7 AM	50 45
Residential use: recreation-oriented (RRO), residential/commercial (RC), multi-family (RM), variable family (RV), urban residential (RU) with a density of more than 11 dwelling units per acre **Special purpose use**: parking (S86)	7 AM to 10 PM 10 PM to 7 AM	55 50
Special purpose use: transportation and utility corridor (S94) **All commercial uses**	7 AM to 10 PM 10 PM to 7 AM	60 55
Manufacturing and industrial use: basic industrial (M50), limited-impact industrial (M52), general impact industrial (M54)	Anytime	70
Special purpose use: extractive (S82) **Manufacturing and industrial use:** mixed-industrial (M56), high-impact industrial (M58)	Anytime	75

Source: County of San Diego 2008

Section 36.410 specifies the sound level limitations on impulsive noise. Impulsive noise is defined by the County as a single noise event or a series of single noise events that cause a high peak noise level for a short duration of time (1 second or less). Noise generated by construction equipment is an example of impulsive noise. Table 4.11-7 presents the maximum sound level for impulsive noise at occupied properties.

Table 4.11-7 County of San Diego Impulsive Noise Limits

Occupied Property Use	Noise Level (dBA)
Residential, village zoning, or civic use	82
Agricultural, commercial, or industrial use	85

Source: County of San Diego 2008

City of Chula Vista General Plan

The City of Chula Vista's land use noise compatibility guidelines are specified in the General Plan. Table 4.11-8 summarizes these exterior land use/noise standards for non-transportation noise sources.

Table 4.11-8 City of Chula Vista Exterior Noise Compatibility Guidelines

Land Use Category	Annual CNEL (dB) Compatible
Residential	<65
Schools, libraries, daycare facilities, convalescent homes, outdoor use areas, and other similar uses considered noise sensitive	<65
Neighborhood parks, playgrounds	<65
Community parks, athletic fields	<70
Offices and professional	<70
Places of worship (excluding outdoor use areas)	<75
Golf courses	<75
Retail and wholesale commercial, restaurants, movie theaters	<75
Industrial, manufacturing	<75

Source: City of Chula Vista General Plan 2005

City of Chula Vista Municipal Code

Section 19.68.030 of the Chula Vista Municipal Code specifies the maximum permissible exterior noise levels by receiving land use. Construction and demolition activities are exempt from the City's exterior noise standards. Table 4.11-9 presents the maximum permissible sound levels for specific land use categories. If the measured ambient level exceeds the permissible noise level by receiving land use as presented in Table 4.11-9, the allowable noise exposure standard shall be the ambient noise level.

Table 4.11-9 City of Chula Vista Exterior Noise Limits

Receiving Land Use Category	Noise Level (dBA)	
	Weekday: 10 PM to 7 AM Weekend: 10 PM to 8 AM	Weekday: 7 AM to 10 PM Weekend: 8 AM to 10 PM
All residential (except multiple dwelling)	45	55
Multiple dwelling residential	50	60
Commercial	60	65
Light industrial	70	70
Heavy industrial	80	80

Source: City of Chula Vista 2013

Section 17.24.040 of the City's Municipal Code prohibits construction activities, including the operation of any tools, power machinery, or equipment used in construction and building works in residential zones, between the hours of 10 PM and 7 AM, Monday through Friday and between the hours of 10 PM and 8 AM, Saturday and Sunday, except when the work is necessary for emergency repairs.

Section 19.68.050 of the City's Municipal Code prohibits the operation of devices that would create a vibration above the vibration perception threshold for any individual at or beyond the property boundary of the source if on private property or 150 feet from the source if on a public space or public right-of-way. The City defines the "vibration perception threshold" as the minimum groundborne or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration. This threshold is set at a motion velocity of 0.01 inch/second over the range of 1 to 100 Hz.

4.11.4 Applicant Proposed Measures

SDG&E proposes to implement measures that would reduce environmental impacts. The following relevant APMs are considered part of the proposed project (Table 4.11-10). The significance of the impact, however, is first considered prior to application of the APM and a significance determination is made. The implementation of the APM is then considered as part of the project when determining whether impacts would be significant and thus would require mitigation. These APMs would be incorporated as part of any CPUC approval of the project, and SDG&E would be required to adhere to the APMs as well as any identified mitigation measures. The APMs are included in the MMRP for the proposed project (Section 9: Mitigation Monitoring and Reporting Plan of this Draft EIR), and the implementation of the measures would be monitored and documented in the same manner as mitigation measures.

Table 4.11-10 Applicant Proposed Measures for Noise Impacts

APM Number	Requirements
APM NOISE-1: Mufflers	Functioning mufflers will be maintained on all construction equipment.
APM NOISE-2: Helicopter Use	Helicopter usage will occur during daylight hours and conform to acceptable hours for construction activities, as outlined within the San Diego County Noise Code and the City of Chula Vista Noise Ordinance. All helicopter use will comply with local, state, and federal regulations. There will be no helicopter over-flights of residences.
APM NOISE-3: Construction Outside of Allowed Hours	If construction activities are required outside of the permissible local construction hours, SDG&E will ~~obtain approval from~~ meet and confer with the City of Chula Vista and the County of San Diego prior to conducting construction outside the permitted hours.

4.11.5 Significance Criteria

Appendix G of CEQA Guidelines (14 CCR 15000 *et seq.*) provides guidance on assessing whether a project will have significant impacts on the environment. Consistent with Appendix G, the proposed project would have significant noise impacts if it would:

a. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction;
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project corridor to excessive noise levels; or within the vicinity of a private airstrip, expose people residing or working in the project corridor to excessive noise levels.

4.11.6 Environmental Impacts and Mitigation Measures

Noise impacts from the project include short-term noise impacts from construction and long-term impacts from operation of the project. The primary source of short-term construction noise is construction equipment including diesel-powered equipment and helicopters. Long-term noise that could be generated during operation of the project includes corona noise that could be discharged from the proposed power line and substation transformer noise.

The following resources were reviewed to evaluate the potential noise impacts from construction, operation, and maintenance of the proposed project:

- Relevant City and County noise standards and policies;
- The existing noise environment and measured noise levels;

- Land uses and distance to sensitive receptors; and
- Modeled noise levels from the proposed project.

Approach to Environmental Impact Assessment

Noise and vibration levels associated with the construction and operation of the proposed project and alternatives were analyzed for potential impacts to noise sensitive receptors such as residences, educational facilities, places of worship, hospitals, convalescent homes, hotels/motels, daycare facilities, and recreation areas. The proposed substation site and the majority (4.2 miles) of the proposed power line are located in the City. Approximately 4,700 linear feet of proposed TL 6965 (the northernmost portion) and the existing Miguel Substation are located in an unincorporated area of the County. Project noise levels are compared to pertinent City or County noise standards.

Construction Noise Generation and Standards

The project would be constructed using heavy equipment, which would be used to prepare the substation site and install equipment and transmission line poles. Table 4.11-11 lists the maximum noise levels for construction equipment at 50 feet from the noise source. Project construction would occur for approximately 18 to 24 months with concurrent construction of multiple project elements.

Table 4.11-12 presents the predicted noise levels during construction for each project component, the closest receptor to respective components, and a comparison with applicable City or County limitations and thresholds for construction noise impacts. The predicted hourly noise level for each project element accounts for the combined use of all required construction equipment.

Table 4.11-11 Typical Maximum Noise Levels Generated by Construction Equipment

Equipment Category	Noise Level at 50 Feet (dBA)
Truck	74 to 88
Backhoe	80
Generator	81
Concrete pump truck	82
Crane, mobile	83
Concrete mixer truck; Dozer; Excavator; Grader; Manlift; Loader; Roller	85
Paver; Scraper	89
Concrete Saw	90
Helicopter	100[1]

Note:

[1] Noise level (dBA) at 100 feet

Source: FTA 2006

Table 4.11-12 Project Construction Noise Levels and Regulations

Construction Activities	Nearest Receptors	Duration of Activity	Maximum Predicted Noise Level	Applicable Limitations
Proposed Substation, City of Chula Vista				
Construction of substation including mass grading, substation facility construction, trenching and installation of distribution circuits, and installation of TL 6910 loop-in	233 feet (residences)	18 to 24 months	71 dBA at nearest receptor (based on maximum noise level of 84 dBA at 50 feet and distance to receptors of 233 feet)	City of Chula Vista • Construction permitted weekdays 7 AM to 10 PM and weekends 8 AM to 10 PM
TL 6965, City of Chula Vista				
Pole installation	County of San Diego: No receptors within 1,000 feet	Less than 3 days per pole location	86 dBA at nearest receptor (based on maximum noise level of 78 dBA at 50 feet and distance to receptors of 20 feet)	City of Chula Vista • Construction permitted weekdays 7 AM to 10 PM and weekends 8 AM to 10 PM
Helicopter conductor stringing	City of Chula Vista: 20 feet (residences)	Approximately 20 minutes at each pole location; travel along transmission corridor for 4 days	100 dBA at 100 feet	
Miguel Substation, County of San Diego				
Substation modifications	No receptors within 1,000 feet	5 months	84 dBA at 50 feet	County of San Diego • Construction permitted Monday through Saturday 7 AM to 7 PM • Construction noise cannot exceed 75 dB for an 8-hour period between 7 AM and 7 PM • Impulsive noise limit: 82 dBA

Construction Activities	Nearest Receptors	Duration of Activity	Maximum Predicted Noise Level	Applicable Limitations
Staging Yards/Helicopter Fly Yards, County of San Diego and City of Chula Vista				
Miguel Substation Staging/Helicopter Fly Yard, County of San Diego				
Vehicles entering/exiting site for material and equipment staging/storage	No receptors within 1,000 feet	Intermittently over construction period	80 to 85 dBA at 50 feet	County of San Diego • Construction permitted Monday through Saturday 7 AM to 7 PM • Construction noise cannot exceed 75 dB for an 8-hour period between 7 AM and 7 PM • Impulsive noise limit: 82 dBA
Helicopter activities (take-off, landing, refueling)		Less than 5 hours per day for 4 days	100 dBA at 100 feet	
Eastlake Parkway Staging Yard, City of Chula Vista				
Vehicles entering/exiting site for material and equipment staging/storage	70 feet (residences)	Intermittently over construction period for TL 6965	77 to 82 dBA at nearest receptor (based on maximum noise level of 80 to 85 dBA at 50 feet and distance to receptors of 70 feet)	City of Chula Vista • Construction permitted weekdays 7 AM to 10 PM and weekends 8 AM to 10 PM
Hunte Parkway Staging/Helicopter Fly Yard, City of Chula Vista				
Vehicles entering/exiting site for material and equipment staging/storage	120 feet (residences)	Intermittently over construction period	72 to 77 dBA at nearest receptor (based on maximum noise level of 80 to 85 dBA at 50 feet and distance to receptors of 120 feet)	City of Chula Vista • Construction permitted weekdays 7 AM to 10 PM and weekends 8 AM to 10 PM
Helicopter activities (take-off, landing, refueling)		Less than 5 hours per day for 4 days	98 dBA at nearest receptor (based on maximum noise level of 100 dBA at 100 feet and distance to receptors of 120 feet)	

Construction Activities	Nearest Receptors	Duration of Activity	Maximum Predicted Noise Level	Applicable Limitations
OTC (Northern Options) Staging/Helicopter Fly Yard, City of Chula Vista				
Vehicles entering/exiting site for material and equipment staging/storage	82 feet (residences)	Intermittently over construction period, if used	76 to 81 dBA at nearest receptor (based on maximum noise level of 80 to 85 dBA at 50 feet and distance to receptors of 82 feet)	City of Chula Vista • Construction permitted weekdays 7 AM to 10 PM and weekends 8 AM to 10 PM
Helicopter activities (take-off, landing, refueling)		Less than 5 hours per day for 4 days, if used	102 dBA at nearest receptor (based on maximum noise level of 100 dBA at 100 feet and distance to receptors of 82 feet)	
OTC (Southern Options) Staging/Helicopter Fly Yard, City of Chula Vista				
Vehicles entering/exiting site for material and equipment staging/storage	54 feet (recreational area)	Intermittently over construction period, if used	80 to 85 dBA at nearest receptor (based on maximum noise level of 80 to 85 dBA at 50 feet and distance to receptors of 54 feet)	City of Chula Vista • Construction permitted weekdays 7 AM to 10 PM and weekends 8 AM to 10 PM
Helicopter activities (take-off, landing, refueling)		Less than 5 hours per day for 4 days, if used	105 dBA at nearest receptor (based on maximum noise level of 100 dBA at 100 feet and distance to receptors of 82 feet)	

Source: SDG&E 2013

Operation and Maintenance Noise Generation and Standards

Project operation would consist of routine, short-term inspections and maintenance of the facilities. Corona noise would be generated from the proposed conductor on a continual basis. Table 4.11-13 presents the predicted noise level during operation and maintenance for each project component, the closest receptor to respective components, and a comparison with applicable County of San Diego and City of Chula Vista thresholds for exterior noise levels.

Construction Groundborne Vibration Generation and Standards

The County of San Diego defers to the FTA guidelines for construction vibration as shown in Table 4.11-5. Although the City of Chula Vista sets a threshold for motion velocity from the operation of devices that would create vibration, this threshold is not a reasonable standard for construction. The City of Chula Vista threshold (0.01 PPV) is well below what is considered to be "barely perceptible" (0.04 PPV) and also below typical ambient vibration levels from truck pass-bys (0.07 PPV at 25 feet). The City's threshold would be applicable to ongoing operational vibration levels (i.e., trains or vibration generating equipment) at very sensitive locations, and not for construction activities. For construction, which is short-term, the impact of concern is structural damage from vibration.

Table 4.11-13 Project Operation and Maintenance Noise Levels

Project Component	Nearest Receptors	Predicted Noise Level	Applicable Limitations
Proposed Substation	233 feet (Residences)	66 dBA at 3 feet during periods of high electrical demand	City of Chula Vista Exterior noise limits[1] • Weekdays, 7 AM to 10 PM, and weekends, 8 AM to 10 PM: 55-60 dBA • Weekdays, 10 PM to 7 AM, and weekends, 10 PM to 8 AM: 45-50 dBA
TL 6965	County of San Diego: No receptors within 1,000 feet City of Chula Vista: 20 feet (Residences)	33.5 dBA directly below the conductor	County of San Diego 1-hour average sound level limits[2] • 7 AM to 10 PM: 50-55 dBA • 10 PM to 7 AM: 45-50 dBA City of Chula Vista Exterior noise limits[1] • Weekdays, 7 AM to 10 PM, and weekends, 8 AM to 10 PM: 55-60 dBA • Weekdays, 10 PM to 7 AM, and weekends, 10 PM to 8 AM: 45-50 dBA
Miguel Substation Modifications	No receptors within 1,000 feet	Same as existing	County of San Diego 1-hour average sound level limits[2] • 7 AM to 10 PM: 50-55 dBA • 10 PM to 7 AM: 45-50 dBA

Notes:

1 City of Chula Vista exterior noise limit for all residential uses.

2 County of San Diego sound level limits for all residential uses.

Source: SDG&E 2013

This analysis applies FTA's construction vibration damage criteria guidelines. FTA sets vibration thresholds for structural damage depending on the fragility of the structure of concern. Under the FTA's guidelines, a vibration limit of 0.5 inches per second (in/sec) PPV is recommended for buildings that are structurally sound and designed to modern engineering standards and a vibration limit of 0.3 in/sec PPV is set for older residential buildings. All buildings in the project area are assumed to be structurally sound, but the residential buildings in the area may or may not have been designed to modern engineering standards. No structurally weakened buildings are known to exist in the area. Thus, the 0.3 in/sec PPV criteria would apply.

Construction activities associated with the project may generate minor groundborne vibration and noise in the vicinity of the construction activity. Impacts from construction-related groundborne vibration and noise would be intermittent and confined to the immediate area surrounding the activity. Table 4.11-14 presents the predicted vibration levels during construction for each project component, the closest receptor to respective components, and a comparison with the applicable FTA threshold for construction vibrational impacts.

Table 4.11-14 Project Construction Groundborne Vibration Levels

Construction Activities	Nearest Receptors	Predicted Vibration Level	Applicable FTA Threshold
Proposed Substation			
Construction of substation including mass grading, substation facility construction, excavation, trenching	233 feet (residences)	0.010 in/sec PPV at nearest receptor	0.3 in/sec PPV
TL 6965			
Pole installation (drilling)	20 feet (residences)	0.114 in/sec PPV at nearest receptor	0.3 in/sec PPV
Miguel Substation			
Substation modifications (excavation)	No receptors within 1,000 feet	0.089 in/sec PPV at 25 feet	0.3 in/sec PPV

Source: SDG&E 2013

Impact Assessment

Table 4.11-15 provides a summary of the significance of potential impacts to noise prior to application of APMs, after application of APMs and before implementation of mitigation measures, and after the implementation of mitigation measures.

Table 4.11-15 Summary of Potential Impacts to Noise

Significance Criteria	Construction/ Operation and Maintenance	Significance Prior to APMS	Significance After APMs and Before Mitigation	Significance After Mitigation
Impact Noise-1: Potential to expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.	Construction	~~Significant~~ Less than significant	~~Less than significant~~ ~~APM NOISE-3~~ Less than significant	~~Less than significant~~ Less than significant
	Operation and Maintenance	Less than significant	Less than significant	Less than significant
Impact Noise-2: Potential to expose persons to or generate excessive groundborne vibration or groundborne noise levels.	Construction	Less than significant	Less than significant	Less than significant
	Operation and Maintenance	Less than significant	Less than significant	Less than significant
Impact Noise-3: Potential to result in a substantial permanent increase in ambient noise levels in the project vicinity above existing noise levels.	Construction	No impact	No impact	No impact
	Operation and Maintenance	Less than significant	Less than significant	Less than significant
Impact Noise-4: Potential to result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction.	Construction	Significant	Significant APM NOISE-1 APM NOISE-2	Significant and unavoidable MM Noise-1 MM Noise-2 MM Noise-3 MM Noise-4
	Operation and Maintenance	Significant	Significant APM NOISE-1 APM NOISE-2	Significant and unavoidable MM Noise-1 MM Noise-2 MM Noise-3
Impact Noise-5: Located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip and would the project expose people residing or working in the project corridor to excessive noise levels.	Construction	No impact	No impact	No impact
	Operation and Maintenance	No impact	No impact	No impact

Impact Noise-1: Potential to expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies (*Less than significant; no mitigation required*)

Pursuant to GO 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of the proposed project, and local land use regulations would not apply to the proposed project. Because construction of the proposed project would be subject to CPUC regulations, it is

assumed that the City and County would not consider construction of the proposed project to be applicable to its exterior noise standards. However, the City and County General Plan policies and noise ordinance standards are used as a basis for evaluation of noise levels because the CPUC does not have numeric thresholds for noise.

Construction

Proposed Substation

Operation of multiple pieces of construction equipment at the proposed substation site would generate an hourly average noise level of 84 dBA at a distance of 50 feet. The nearest sensitive receptors to the proposed substation are residences located 233 feet north of the parcel boundary. Noise levels decrease at a rate of 6 dBA per doubling of distance between the noise source and receptor. Hourly average construction noise levels at 233 feet, the approximate distance to the nearest receptor, are expected to be 71 dBA over the 2-year anticipated construction period.

The City sets permissible hours of construction but does not specify construction noise level standards. Because the duration of construction activities at the proposed substation would span two years, noise impacts are compared to the City's land use noise compatibility guidelines. The City of Chula Vista General Plan sets a noise level limit of 65 dB annual CNEL for residential areas, schools, and neighborhood parks. Based on the scheduled hours of construction, the annual CNEL from construction of the proposed substation would be approximately 62 dB at the nearest sensitive receptor. Construction of the proposed substation would not exceed the City annual CNEL for adjacent residential areas because construction would be intermittent and the average annual CNEL of 62 dB would be below the threshold of 65 dB due to periods of equipment inactivity. Construction of the proposed substation would not exceed local noise level standards.

The City allows construction activities between the hours of 7 AM and 10 PM, Monday through Friday, and between the hours of 8 AM and 10 PM on Saturday and Sunday. Construction activities at the proposed substation site would generally occur within the daytime working hours of 7 PM to 7 PM, Monday through Friday, and between the hours of 8 AM and 7 PM on Saturdays. Work activities that are anticipated outside of the standard daytime work hours include:

- Concrete pours during an extended day;
- Transformer oil filling (24-hour filling for 3 to 4 days per transformer); and
- Cutovers of transmission tie-lines and distribution circuits.

Noise generated by concrete pours depends on the size and duration of the pour. Concrete mixer truck noise levels are 85 dBA at 50 feet from the source. Noise levels from these concrete pours would be less than 73 dBA at the nearest receptor 233 feet to the north. Concrete pours on extended days are anticipated to begin one to two hours earlier than the typical construction hours and would last for a limited duration (e.g., 1 to 2 weeks).

Oil-filling activities may generate noise levels of up to 60 dBA at 50 feet from the source. Noise levels at the nearest sensitive receptor (located 233 feet north of the site) are expected to be less than 48 dBA during oil filling. The expected noise level of 48 dBA generated from transformer oil filling would not exceed the average noise level of 50 dBA at Hunte Parkway.

Activities associated with cutovers of transmission tie-lines and distribution circuits would consist of workers driving vehicles to test and operate equipment within the control room. Noise levels would be minimal and would be the same as the background traffic noise.

The increase in noise levels from construction activities occurring outside of standard daytime work hours would be either within the ambient noise levels or of very short duration (i.e., one to two hours per day for up to two weeks)~~; however, construction activities that occur outside of the City-approved construction work hours could result in a significant impact if they conflict with local agency noise standards.~~ The impact to local noise standards would be less than significant due to the short duration of activities and because the noise levels would not exceed existing night-time ambient noise levels.

TL 6965

The majority (4.2 miles) of the proposed power line TL 6965 is located in the City; approximately 4,700 linear feet of TL 6965 is located in unincorporated San Diego County. Activities that would generate noise during power line construction would include site preparation, pole installation, and overhead conductor cable installation via helicopter.

City of Chula Vista. Operation of construction equipment to install the power poles would generate an hourly average noise level of 78 dBA at a distance of 50 feet. The nearest sensitive receptor is approximately 20 feet from a pole work area (Foundation Pole 28, see Figure 2.6-3) in the City of Chula Vista. Hourly average construction noise levels at 20 feet, the distance to the nearest receptor, are expected to be 86 dBA. Noise levels associated with installing new poles would be short in duration at any one location, lasting 1 to 3 days. Pole installation would include constructing the foundation, augering the pole hole, and erecting the pole. SDG&E would move from pole to pole along the alignment throughout the approximate 12-month construction period.

A light- to medium-lift construction helicopter would be used during the transport, placement, and installation of the overhead conductor cable. Helicopter over-flights could generate noise levels of up to 100 dBA at 100 feet. Although residences are located as close as 20 feet (Foundation Pole 28) from potential pole locations helicopters would travel above the height of the poles. Project poles heights would vary between 34 and 123 feet above ground level. Taking into account the height of the pole and the distance from the nearest receptor, noise levels from helicopter stringing activities would be approximately 100 dBA at the location of the nearest receptor. The City sets permissible hours of construction but does not specify construction noise level standards. Because helicopter operations would occur within City -approved work hours, impacts would be less than significant.

Stringing of the line may require work outside of City-approved construction hours. Nighttime activities for TL 6965 would consist of driving trucks to route the conductor over SR-125. Crews would mobilize at approximately 3 or 4 AM on a Sunday morning. Noise levels would be minimal because the work would consist of moving bucket and boom trucks and wire-pulling equipment into position to be ready to work at first light. While these nighttime construction activities would occur outside of City-approved construction work hours the noise levels associated with the temporary work activities would be similar to existing noise conditions generated by vehicles on the highway and would be less than significant. APM NOISE-3 also directs SDG&E to obtain approval from the local jurisdictions prior to conducting construction outside the permitted hours. Impacts would be less than significant.

County of San Diego. There are no receptors within 1,000 feet of TL 6965 work areas in the County of San Diego. The construction activities required to install power poles and power line stringing would not exceed the County's construction noise standard of 75 dB for an 8-hour period between 7 AM and 7 PM or impulsive noise limit of 82 dBA at any noise receptor locations. Impacts would be less than significant because local construction noise standards would not be exceeded.

Miguel Substation Modifications

Construction activities at Miguel Substation would include the installation of steel supports and associated bus work for a rack extension; disconnect switches; circuit breakers; and associated relays and controls. There are no receptors within 1,000 feet of Miguel Substation. These activities would generate noise levels of approximately 85 dBA at 50 feet from the noise source and less than 60 dBA at the nearest noise receptor and would likely be imperceptible from existing noise levels in the surrounding communities due to the distance between the proposed modifications and sensitive receptors. The limited construction activities required to modify Miguel Substation would not exceed the County's construction noise standard of 75 dB for an 8-hour period between 7 AM and 7 PM or impulsive noise limit of 82 dBA at any noise receptor locations. Local construction noise standards would not be exceeded and impacts would be less than significant.

Staging Yards/Helicopter Fly Yards

Staging yards would be used primarily for material and equipment storage and helicopter takeoffs, landings, and refueling. Construction trailers, parking areas, and temporary overhead power for construction would be located at the staging yards. Additional activities at the yards would include refueling vehicles and construction equipment using a mobile fueling truck and pole assembly. Noise would be generated from vehicle entry and exit from the staging yards throughout the duration of construction. Helicopter takeoffs and landings could generate noise levels of up to 100 dBA at a distance of 100 feet. Helicopter operation would occur during daytime construction hours and would be intermittent for approximately five hours per day over a 4-day period.

City of Chula Vista. The Eastlake Parkway staging yard, Hunte Parkway staging yard, and both OTC staging yards (northern and southern options) are located within the City of Chula Vista.

Eastlake Parkway Staging Yard. No helicopter activities would take place at the Eastlake Parkway staging yard. The Eastlake Parkway staging yard would be used for material, equipment, and vehicle staging for TL 6965 construction. Noise generated at the staging site would consist of vehicles entering and exiting the site during the duration of project construction and would be minimal. The staging yard would be used during City-approved construction work hours, and impacts would be less than significant.

Hunte Parkway, OTC (Northern Option), OTC (Southern Option) Staging Yards. The nearest receptors to the Hunte Parkway staging yard are residences located 120 feet to the north and east of the site. At this distance, helicopter activities at the Hunte Parkway staging area would generate noise levels up to 98 dBA. The nearest receptors to the OTC (northern option) staging yards are residences located 82 feet to the west of the site. At this distance, helicopter activities at the OTC (northern option) staging area would generate noise levels up to 102 dBA. The nearest receptor to the OTC (southern option) staging yards is Eastlake Park III located approximately 54 feet to the south. At this distance, helicopter activities at the OTC (southern option) staging area would generate noise levels up to 105 dBA. These residential and recreational receptors may experience intermittently high noise levels associated with helicopter takeoffs and landings during the 4-day period. Takeoffs and landings would occur during approved hours of construction and the helicopter would not stay at the staging location for an extended period of time (approximately 20 minutes or less as needed to pick up or drop off materials). Noise generated by vehicles entering and exiting the site during the duration of project construction would be comparable to the existing background traffic noise. The City sets permissible hours of construction but does not specify construction noise level standards. Activities at the staging yards would be conducted during City-approved construction work hours; thus, impacts would be less than significant.

County of San Diego. There are no receptors within 1,000 feet of the Miguel Substation staging yard. Noise levels from staging activities and helicopter takeoff and landing at the Miguel Substation staging yard would not exceed the County of San Diego's standard of 75 dB for an 8-hour period between 7 AM and 7 PM or impulsive noise limit of 82 dBA at any noise receptor locations. Impacts would be less than significant because local construction noise standards would not be exceeded.

Operation and Maintenance

Proposed Substation

Permanent noise sources associated with the proposed substation would be limited to operation of transformers and auxiliary cooling fans for the transformers to cool the equipment during periods of high electrical demand. With all auxiliary-cooling fans operating simultaneously in peak situations, the worst-case noise level generated by the transformers at full load is

predicted to be no more than 66 dBA at a distance of three feet from the center of the equipment.

The substation and transformer equipment would be located on a substation pad approximately ~~35~~47 feet below the grade of Hunte Parkway and neighboring residential communities and schools. The substation would be enclosed by a 10- to 12-foot-high masonry wall. Based on the proposed substation layout, the transformer banks would be located near the center of the substation footprint, with the nearest transformer bank located 100 feet from the northern site boundary of the proposed substation. The transformers would be located 233 feet from the nearest property line. At this distance, the noise level generated by the transformers would be 32 dBA or less, which would be indistinguishable from ambient noise levels because it would result in an increase of less than 1 dBA to the existing noise environment. This noise level would be within the City's exterior daytime and nighttime noise limits of 55 dBA and 45 dBA, respectively. Impacts would be less than significant because local noise level standards would not be exceeded.

TL 6965

Operation and maintenance activities for the proposed power line would be similar in scope to existing operation and maintenance activities for adjacent power lines.

The proposed power line could produce corona noise, similar to the existing power lines. When a power line is in operation, an electric field is generated in the air surrounding the conductors, forming a "corona." If the intensity of the electric field at the surface exceeds the insulating strength of the surrounding air, a corona discharge occurs in the form of heat and energy dissipation. Corona discharge is often characterized by a small amount of sound. Based on the voltage of the proposed power line, noise levels generated by power line operation and potential corona discharge occurrences would be less than 33.5 dBA directly below the conductor. A noise level of this magnitude would be indistinguishable from ambient noise levels and would result in an increase of less than 1 dBA to the existing noise environment. Operation of the TL 6965 power line would be within the City's exterior daytime and nighttime noise limits of 55 dBA and 45 dBA, respectively, and the County's daytime and nighttime 1-hour average sound level limits of 50 dBA and 45 dBA, respectively. Impacts would be less than significant because local noise level standards would not be exceeded.

Miguel Substation Modifications

Operation and maintenance activities at the existing Miguel Substation would not increase in intensity, frequency, or duration with implementation of the proposed project and would be similar in scope to existing operation and maintenance activities. The modifications at the Miguel Substation would not generate operational noise. The project would not increase operational noise levels beyond existing levels. There would be no impact.

Mitigation Measures: None required.

Impact Noise-2: Potential to expose persons to or generate excessive groundborne vibration or groundborne noise levels (*Less than significant; no mitigation required*)

Construction

Proposed Substation

Installation of underground facilities at the proposed substation is anticipated to generate the highest vibration levels. Below-grade construction activities would require the use of an excavator/backhoe to excavate and backfill trenches for the ground grid, cables, foundations and footings, and duct banks; a cement mixer for preparing concrete for cable trenches, foundations and footings, and equipment vaults; and trucks for hauling equipment and construction materials. Other construction activities, such as grading and facility construction, may generate vibrations; however, these vibration levels would be negligible because they would be less intense and intermittent.

The nearest receptors to the proposed substation site are residences located 233 feet north of areas where excavation and below grade work will be conducted. The worst-case vibration level from excavation and below grade construction activities experienced at the nearest receptor location is expected to be less than 0.010 in/sec PPV, which is below the FTA threshold of 0.30 in/sec PPV. Construction of the proposed substation would not expose persons to excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant.

TL 6965

Groundborne vibrations may result from drilling associated with installing poles, stringing lines, and installing telecommunication equipment for the proposed power line. These construction activities would require the use of an auger/drill or backhoe.

City of Chula Vista. The nearest receptors to the TL 6965 alignment are residences located as close as 16 feet from the proposed power line and 20 feet from Pole 28. The worst-case vibration level from drilling activities experienced at the nearest receptor location is expected to be 0.114 in/sec PPV and below the FTA threshold of 0.30 in/sec PPV. Groundborne vibration from installing power poles would be intermittent and temporary. Drilling would only be conducted during daytime work hours. Once drilling is completed vibration would cease. Groundborne vibration dissipates rapidly with distance, and the vibrations would not be perceptible at farther distances. The vibrations would be limited in both duration and area, and the impacts from the vibrations would be less than significant.

Miguel Substation Modifications

There are no receptors within 1,000 feet of the Miguel Substation work area. Given the distance between the construction activity and potential receptors, the vibrational impact of the proposed construction at Miguel Substation would not exceed thresholds. Impacts would be less than significant.

Operation and Maintenance

Operation of the transformers at the proposed substation may generate groundborne vibrations perceptible within the immediate vicinity of the transformer pad, within less than 25 feet.

Vibrations generated by transformers would not be perceptible to the nearest receptor located approximately 233 feet to the north as vibration would only be perceptible to those in the immediate vicinity, within 25 feet of the transformer pad. No other project components would generate groundborne vibration during operation. Additional operational activities of the project would consist of routine maintenance and emergency repairs. These maintenance activities would be infrequent and would not generate excessive groundborne vibration or groundborne noise levels. Maximum groundborne vibration or groundbourne noise levels from maintenance would be similar to the groundborne vibration levels generated during construction. Thus, operation and maintenance of the project would not expose persons to excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant.

Mitigation Measures: None required.

Impact Noise-3: Potential to result in a substantial permanent increase in ambient noise levels in the project vicinity above existing noise levels (*Less than significant; no mitigation required*)

Construction

Noise generated during project construction would be temporary and would not result in a permanent increase in ambient noise levels within the project vicinity. There would be no impact.

Operation and Maintenance

The average daytime ambient noise level in the project corridor ranges from 47 to 60 dBA, and the maximum noise levels range from 57 to 72 dBA. Background noise levels along the project corridor are generally less than 50 dBA, based on the community noise survey that was conducted to characterize the existing noise environment of the project area.

New permanent noise sources associated with the project would be limited to transformer operations at the proposed substation and noise generated by corona discharge on the TL 6965 power line. No new noise sources are anticipated at the Miguel Substation, as operation and maintenance would not increase in intensity, frequency, or duration, and such activities would remain similar in scope to those currently conducted.

Given the distance from the proposed substation transformers to the nearest property line (233 feet away), noise levels generated by the transformers would be 32 dBA or less, which would be indistinguishable from ambient noise levels. Similarly, the noise levels generated by power line operation and potential corona discharge occurrences would be less than 33.5 dBA directly below the conductor, which would also be indistinguishable from ambient noise levels. Both new permanent noise sources would result in an increase of less than 1 dBA to the existing noise environment. A substantial increase in ambient noise levels is typically defined as a 10 dBA increase to the existing environment. The proposed project would not therefore result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts would be less than significant.

Mitigation Measures: None required.

Impact Noise-4: Potential to result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction (*Significant and unavoidable*)

A substantial noise increase is typically defined as a 10-dBA increase over existing ambient noise levels. As discussed in Impact Noise-1, construction noise impacts associated with the project would primarily affect receptors located in proximity to the proposed substation site, TL 6965 power line, and helicopter fly yards. Constructing the proposed substation, installing the TL 6965 power poles, and installing the overhead TL 6965 conductor cable via helicopter would result in a temporary increase in ambient noise levels in the project vicinity.

Proposed Substation

The average daytime ambient noise level at Hunte Parkway is approximately 50 dBA, and the maximum noise level is approximately 68 dBA. Construction of the proposed substation would generate a maximum hourly noise level of 84 dBA at a distance of 50 feet. At the nearest receptor located 233 feet to the north, the noise level from construction of the proposed substation would be 71 dBA. The maximum construction noise level would constitute a 21-dBA increase over existing average ambient noise levels and a 3-dBA increase over existing maximum noise levels at the nearest sensitive receptor. Construction of the proposed substation would occur over approximately 18 to 24 months. Construction of the substation would result in a substantial temporary increase in ambient noise levels, which would be a significant impact.

APM NOISE-1 directs SDG&E to install and maintain functioning mufflers on all construction equipment to reduce construction noise levels. Mufflers that are correctly installed and maintained would be expected to reduce construction equipment noise levels by 5 to 10 dBA. However, even with implementation of APM NOISE-1, impacts would still remain significant.

Mitigation Measure Noise-1 requires that SDG&E notify residents within 300 feet of work areas and respond to public noise complaints in a timely and effective manner. Mitigation Measure Noise-2 requires SDG&E to implement noise BMPs, including noise barriers, to reduce construction noise at the proposed substation to nearby receptors. Barriers that are correctly placed and well-designed would be expected to reduce construction equipment noise levels by 9 to 10 dBA. Installation of construction mufflers as required by APM NOISE-1 and the use of noise barriers as required by Mitigation Measure Noise-2 would cumulatively reduce total construction noise levels by 5 to 15 dBA. With implementation of APM NOISE-1 and Mitigation Measure Noise 2, construction noise levels would be 56 to 66 dBA at the nearest sensitive receptor. Even with implementation of applicable APMs and mitigation measures, the increases in ambient noise levels from construction at the proposed substation would be more than 10 dBA. The increase in ambient noise levels would be substantial and impacts would remain significant and unavoidable.

TL 6965

The average daytime ambient noise level in the project vicinity ranges from 47 to 60 dBA. Construction activities associated with installing the TL 6965 power poles would generate an hourly average noise level of approximately 86 dBA at the nearest residential receptor located

20 feet from the nearest proposed work area (Foundation Pole 28). At the nearest school (Eastlake High School) located 123 feet from the nearest proposed work area (Foundation Pole 22), hourly average noise levels from installing TL 6965 power poles would be approximately 72 dBA. Construction noise would constitute a 26 to 39 dBA increase over existing average ambient noise levels at the nearest residential receptor and an increase of 12 to 25 dBA at the nearest school. Noise levels associated with installing new poles would be short in duration, as it would typically take one to three days to erect poles at one location.

Helicopter activities associated with installing the overhead conductor cable for TL 6965 could generate noise levels of up to 100 dBA at the location of the nearest sensitive receptor. Helicopters would generate noise that would cause a substantial temporary increase in ambient noise levels in the project vicinity, which would be a significant impact.

APM NOISE-1 directs SDG&E to install and maintain functioning mufflers on all construction equipment to reduce construction noise levels. Mufflers that are correctly installed and maintained would be expected to reduce construction equipment noise levels by 5 to 10 dBA. APM NOISE-2 dictates that helicopter usage would occur during daylight hours and would conform to acceptable hours for construction activities, as outlined in the San Diego County Noise Code and the City of Chula Vista Noise Ordinance. There would be no helicopter over-flights of residences. However, even with implementation of APM NOISE-1 and APM NOISE-2, the temporary increase in noise would be significant.

Mitigation Measure Noise-1 requires that SDG&E notify residents within 300 feet of work areas and respond to public noise complaints in a timely and effective manner. Mitigation Measure Noise-2 requires SDG&E to implement noise BMPs, including noise barriers, to reduce construction noise levels from the TL 6965 work areas to nearby receptors. Mitigation Measure Noise-3 requires SDG&E to coordinate with the local school districts to schedule TL 6965 construction activities, including power pole installation and helicopter activities, to avoid days/times when schools near the work area are in session. Mitigation Measure Noise-4 requires SDG&E to relocate a pole increase the distance between residences and pole work areas. The pole relocation would not impact any other resource areas as the resources within the pole relocation area are the same as SDG&E's proposed project pole location. Even with implementation of applicable APMs and mitigation measures, TL 6965 construction would produce temporary noise levels up to 98 dBA at sensitive receptors, which would be a substantial increase in ambient noise levels. Impacts would remain significant and unavoidable.

Miguel Substation Modifications

As discussed above in Impact Noise-1, there are no receptors within 1,000 feet of Miguel Substation. The nearest receptor to Miguel Substation is located approximately 1,875 feet to the west. Construction noise at Miguel Substation would not result in a substantial temporary increase in existing ambient noise levels at any noise receptor locations. Impacts would be less than significant.

Staging Yards/Helicopter Fly Yards

The Eastlake Parkway, Hunte Parkway, and both OTC staging yards (northern and southern options) are located within the City. As previously discussed in Impact Noise-1, construction noise impacts associated with the project would primarily affect receptors located in proximity to staging yards used for helicopter activities.

Eastlake Parkway Staging Yard. The average daytime ambient noise level in the project vicinity ranges from 47 to 60 dBA. Noise generated at the staging site would consist of vehicles entering and exiting the site during the duration of project construction and would be intermittent. Vehicle operation noise would be similar to the existing background traffic noise in the project vicinity and would not result in a substantial temporary increase in existing ambient noise levels at the nearest residential receptor and school. Impacts would be less than significant.

Hunte Parkway, OTC (Northern Option), and OTC (Southern Option) Staging Yards. The average daytime ambient noise level in the project vicinity ranges from 47 to 60 dBA. Helicopter activities at the Hunte Parkway staging area would generate noise levels up to 98 dBA at the nearest residential receptors located 120 feet to the north and east. The High Tech schools, located 658 feet southeast of the Hunte Parkway staging yard, would experience noise levels of approximately 83 dBA associated with helicopter activities.

The nearest receptors to the OTC (northern option) staging yards are residences located 82 feet to the west of the site. At this distance, helicopter activities at the OTC (northern option) staging area would generate noise levels up to 102 dBA. There are no residential or school receptors within 1,000 feet of the OTC (southern option) staging yard. The nearest receptor to the OTC (southern option) staging yard is Eastlake Park III located approximately 54 feet to the south. At this distance, helicopter activities at the OTC (southern option) staging area would generate noise levels up to 105 dBA. These residential and recreational receptors would experience intermittently high noise levels (approximately 20 minutes) associated with helicopter takeoffs and landings. Helicopter activities would not occur at any location for an extended period of time. However, the use of helicopters at these staging yards would result in a substantial temporary increase in existing ambient noise levels, and impacts would be significant.

APM NOISE-2 requires that helicopter usage occur during daylight hours. Impacts would remain significant with implementation of APM NOISE-2 because helicopter activities at the Hunte Parkway, OTC (northern option), and OTC (southern option) staging yards would still result in a substantial temporary increase in ambient noise levels to nearby noise receptors.

Mitigation Measure Noise-1 requires SDG&E to notify residents within 300 feet of work areas, including helicopter fly yards, and to respond to public noise complaints in a timely and effective manner. Mitigation Measure Noise-3 requires SDG&E to coordinate with local school districts to schedule helicopter activities within 300 feet of school properties to avoid days/times when school is in session. The mitigation measures would not feasibly decrease the noise levels generated by helicopters, and the increases in ambient noise levels from helicopter activities at the Hunte Parkway, OTC (northern option), and OTC (southern option) staging yards would be substantial to nearby receptors. Impacts would remain significant and unavoidable.

Operation and Maintenance

Noise associated with project operation would result in an increase of less than 1 dBA to the existing noise environment. Project maintenance activities could involve similar equipment to project construction. The use of heavy equipment to conduct maintenance on the power line or substation could result in substantial temporary increase in noise levels in the project vicinity. APMs NOISE-1 and NOISE-2 would be implemented to reduce the effects of noise during maintenance activities; however, impacts would remain significant. Mitigation Measure Noise-1 requires that SDG&E notify residents within 300 feet of work areas and respond to public noise complaints in a timely and effective manner. Mitigation Measure Noise-2 requires SDG&E to implement noise BMPs, including noise barriers, to reduce construction noise at the proposed substation to nearby receptors. In the event that helicopters must be used to re-string conductors and/or re-install poles, Mitigation Measure Noise-3 requires SDG&E to coordinate with the local school districts to schedule helicopter activities to avoid days/times when schools near the work area are in session. However, mitigation would not reduce the effects of noise during maintenance activities to a less than significant level. Thus, similar to construction, the temporary increase in noise levels from maintenance would be significant and unavoidable.

Mitigation Measures: Noise-1, Noise-2, Noise-3, and Noise-4

Mitigation Measure Noise-1: SDG&E shall provide notice by mail to all sensitive receptors and residences within 300 feet of construction sites, staging yards, helicopter fly yards, and access roads at least one week prior to construction activities. SDG&E shall also post notices at the access road to the proposed substation and in ~~public areas, including recreational use areas, within 300 feet of the project alignment and construction work areas~~ SDG&E's right-of-way where the right-of-way is located within 300 feet of designated trails, public parks, and roads. The announcement shall state specifically where and when construction will occur in the area. For areas that would be exposed to helicopter noise, the announcement shall provide specific details on the schedule of the dates, times, and duration of helicopter activities. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction.

SDG&E shall identify and provide a public liaison person before and during construction through project energization to respond to concerns of neighboring receptors, including residents, about noise construction disturbance. SDG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction through project energization and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person shall be included in the above notices and also posted conspicuously at the construction site(s). SDG&E ~~will~~ shall address all complaints ~~in a~~ within one week of when the complaint is filed. SDG&E shall provide monthly reports with records of complaints and responses to the CPUC. These reports shall be provided to CPUC within 15 days of the end of the month.

Mitigation Measure Noise-2: SDG&E shall comply with local noise rules, standards, and/or ordinances by implementing the following noise-suppression techniques and standards set by local authorities. SDG&E shall submit a request to CPUC for any construction activities that must occur outside of the permitted construction hours allowed by local ordinances. The request shall include details on the noise levels resulting from construction activities occurring outside the permitted construction hours. CPUC will not authorize any work outside of locally permitted construction hours that would exceed local standards.

SDG&E shall also employ the following noise-suppression techniques to reduce construction noise:

- Use noise reduction features on construction equipment (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- Install temporary sound walls or acoustic blankets to shield adjacent residences from stationary equipment where residences are located within ~~200~~ 300 feet of the equipment. The sound walls or acoustic blankets shall have a height of no less than 3 feet higher than noise-generating piece(s) or parts of equipment, a Sound Transmission Class of 27 or greater, and a surface with a solid face from top to bottom without any openings or cutouts along the face or at the base of the barrier.
- Minimize unnecessary construction vehicle use and idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. If a vehicle is not required for use immediately or continuously for construction activities, its engine shall be shut off.

Mitigation Measure Noise-3: SDG&E shall coordinate with the Chula Vista Elementary School District and the Sweetwater Union High School District to schedule helicopter activities and TL 6965 construction activities (i.e., power pole installation and helicopter flight) within 300 feet of school properties to avoid days/times when school is in session to the extent practicable. To the extent feasible, construction activities that would result in a substantial increase in ambient noise levels at a nearby school would be scheduled during a school break.

Mitigation Measure Noise-4: SDG&E shall relocate pole number 28 approximately 100 feet to the north and in line with the power line to increase the distance between residences and the proposed power pole.

Significance after Mitigation: Significant and unavoidable.

Impact Noise-5: Located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip and would the project expose people residing or working in the project corridor to excessive noise levels (*No impact*)

The project corridor is not located within 2 miles of an airport or private airstrip. The project would not expose the community to excessive aircraft noise created by aircraft operations. No impact would occur.

Mitigation Measures: None required.

4.11.7 Project Alternatives

Table 4.11-16 provides a summary of the noise impacts from the project alternatives.

Table 4.11-16 Summary of Impacts from Alternatives by Significance Criteria

Significance Criteria	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Impact Noise-1: Potential to expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies	Less than significant	Less than significant ~~APM NOISE-3~~	Less than significant ~~APM NOISE-3~~	Less than significant ~~APM NOISE-3~~
Impact Noise-2: Potential to expose persons to or generate excessive groundborne vibration or groundborne noise levels	Less than significant	Less than significant	Less than significant	Less than significant
Impact Noise-3: Potential to result in a substantial permanent increase in ambient noise levels in the project vicinity above existing noise levels	No impact	Significant and unavoidable APM NOISE-1 MM Noise-1, MM Noise-2	Less than significant	Less than significant
Impact Noise-4: Potential to result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction	Less than significant	Significant and unavoidable APM NOISE-1 MM Noise-1 MM Noise-2	Significant and unavoidable APM NOISE-1 MM Noise-1 MM Noise-2	Significant and unavoidable APM NOISE-1 MM Noise-1 MM Noise-2 MM Noise-3
Impact Noise-5: Located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip and would the project expose people residing or working in the project corridor to excessive noise levels	No Impact	No impact	No impact	No impact

Alternative 1: 230/12-kV Substation and 230-kV Loop-In

Environmental Setting

Alternative 1 would involve construction of a 230/12-kV substation within the SDG&E fee-owned parcel south of Hunte Parkway. The existing noise conditions and noise-sensitive receptors for the proposed substation, described in Section 4.11.2, would apply to this alternative. The noise environment for TL 6965 would not apply because TL 6965 would not be constructed in this alternative.

Impacts and Mitigation Measures

Construction of Alternative 1 would temporarily generate noise and groundborne vibration similar to construction of the proposed substation. The 230/12-kV substation would be located in the same location as the proposed substation. Construction would occur over 24 to 30 months, approximately 6 to 12 months longer than the proposed project, and sensitive receptors near the substation would therefore be exposed to noise for a longer period of time. Alternative 1 would involve equipment and activities that would produce groundborne vibration levels similar to the proposed project. Groundborne vibration impacts would be less than significant.

The level of noise generated from operation of construction equipment at the substation would be approximately 71 dBA at 233 feet, the same noise level generated from the proposed project because the same types of equipment would be used to perform similar construction activities including mass grading, facility construction, and distribution line construction. Like the proposed project, construction of the 230/12-kV substation would not exceed local noise level standards. The majority of construction activities would occur within the City of Chula Vista's permissible hours of construction. Similar to the proposed project, Alternative 1 would involve oil filling and concrete work outside of approved construction hours. Because three transformers would be required instead of two and because the transformers would be larger (the total volume would be 30,000 gallons of oil for Alternative 1 relative to the 11,000 gallons of oil required for the proposed project), the duration of oil filling would be approximately 172 percent longer than the proposed project. The duration of extended hours for concrete fills would be similar to the proposed project due to the similar size of the foundations at the substation. ~~APM NOISE-3 requires SDG&E to obtain approval from the local jurisdictions prior to conducting construction outside the permitted hours.~~ The project would not conflict with local noise standards and impacts would be less than significant ~~after implementation of APM NOISE-3~~.

Construction of the 230/12-kV substation would result in a substantial temporary increase in ambient noise levels near the substation, similar to construction of the proposed project substation. Sensitive receptors would be exposed to the increased noise levels of approximately 21 dBA at the nearest receptor for six months longer than the proposed project. The temporary increase in ambient noise level during construction would be significant. Construction of Alternative 1 would also result in a permanent increase in ambient noise levels of more than 10dBA. A permanent noise impact under CEQA is defined as an increase in ambient noise levels that lasts for two years or more. Construction of the 230/12-kV substation would last a minimum of two years; therefore, impacts from a permanent increase in ambient noise levels

would be significant. APM NOISE-1 directs SDG&E to install and maintain functioning mufflers on all construction equipment to reduce construction noise levels; however, impacts would remain significant even with APM NOISE-1 because noise levels would increase by more than 10dBA. Mitigation Measure Noise-1 requires SDG&E to notify residents within 300 feet of work areas and respond to public noise complaints in a timely and effective manner. Mitigation Measure Noise-2 requires SDG&E to implement noise BMPs, including noise barriers, to reduce construction noise at the proposed substation to nearby receptors. Mitigation Measures Noise-1and Noise-2 would reduce the impact from construction noise; however, there would remain an approximately 6 to 16 dBA increase in ambient noise level for 24 to 30 months, which would result in a substantial temporary and permanent increase in noise levels. Thus, impacts to sensitive receptors would be significant and unavoidable for a period of up to 30 months.

Significant and unavoidable noise impacts associated with pole installation along TL 6965, modifications at Miguel Substation, and use of helicopters would be avoided because Alternative 1 would not involve these activities.

Similar to the proposed project, operation of the substation would generate a minimal amount of permanent noise. Transformers and auxiliary cooling fans would produce the only permanent noise during operation. The level of noise generated would be nearly the same as the proposed project and would not substantially add to the ambient noise level in the area. Impacts would be less than significant.

Alternative 2: 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities

Environmental Setting

Alternative 2 would involve construction of a substation, distribution lines, and TL 6910 loop-in the same manner as the proposed project. The existing noise conditions and noise-sensitive receptors for the proposed project, described in Section 4.11.1, would apply to this alternative. The noise environment for TL 6965 would not apply to Alternative 2.

Impacts and Mitigation Measures

69/12-kV Substation. Construction of the 69/12-kV substation would produce the same noise and groundborne vibrations as the proposed project because the 69/12-kV substation would be constructed in the same location and manner as the proposed substation. Like the proposed project, impacts from vibrations would be less than significant. Similar to the proposed project, temporary construction noise impacts on sensitive receptors would be significant. APM NOISE-1 ~~and NOISE-3~~ would reduce noise impacts by requiring functioning mufflers on construction equipment ~~and local agency approval prior to construction outside of normal permitted hours~~. Impacts would remain significant after implementation of APMs NOISE-1 ~~and NOISE-3~~. SDG&E would implement Mitigation Measures Noise-1 and Noise-2 to reduce the construction-generated noise levels. As with the proposed project, the temporary increase in ambient noise level from substation construction would remain substantial even with APMs and mitigation measures. Impacts to sensitive receptors would be significant and unavoidable during the 18 to 24 month construction period.

The same amount of noise would be generated from operation of Alternative 2 as the proposed project substation because the substation would be operated in the same manner. There would be no corona noise from Alternative 2 because no additional power lines would be constructed. Impacts would be less than significant.

Power Generation at Border and Larkspur. Increasing power generation at Border and LEF would not increase the level of noise produced from the facilities; however, the frequency of facility use would increase by three percent or less annually. Increased operation of the electric generating facilities would not exceed the permitted operating hours of 8,760 hours per year (365 days) for Border and 5,950 hours per year (roughly 248 days) for LEF. Noise produced from additional power generation would not exceed provisions set in the permits for each facility, and impacts would be less than significant.

Alternative 2 would avoid noise impacts associated with pole installation along TL 6965 and helicopter use because Alternative 2 would not involve construction of TL 6965 or new power line stringing.

Alternative 3: 69/12-kV Substation and Underground 69-kV Power Line within Public ROW

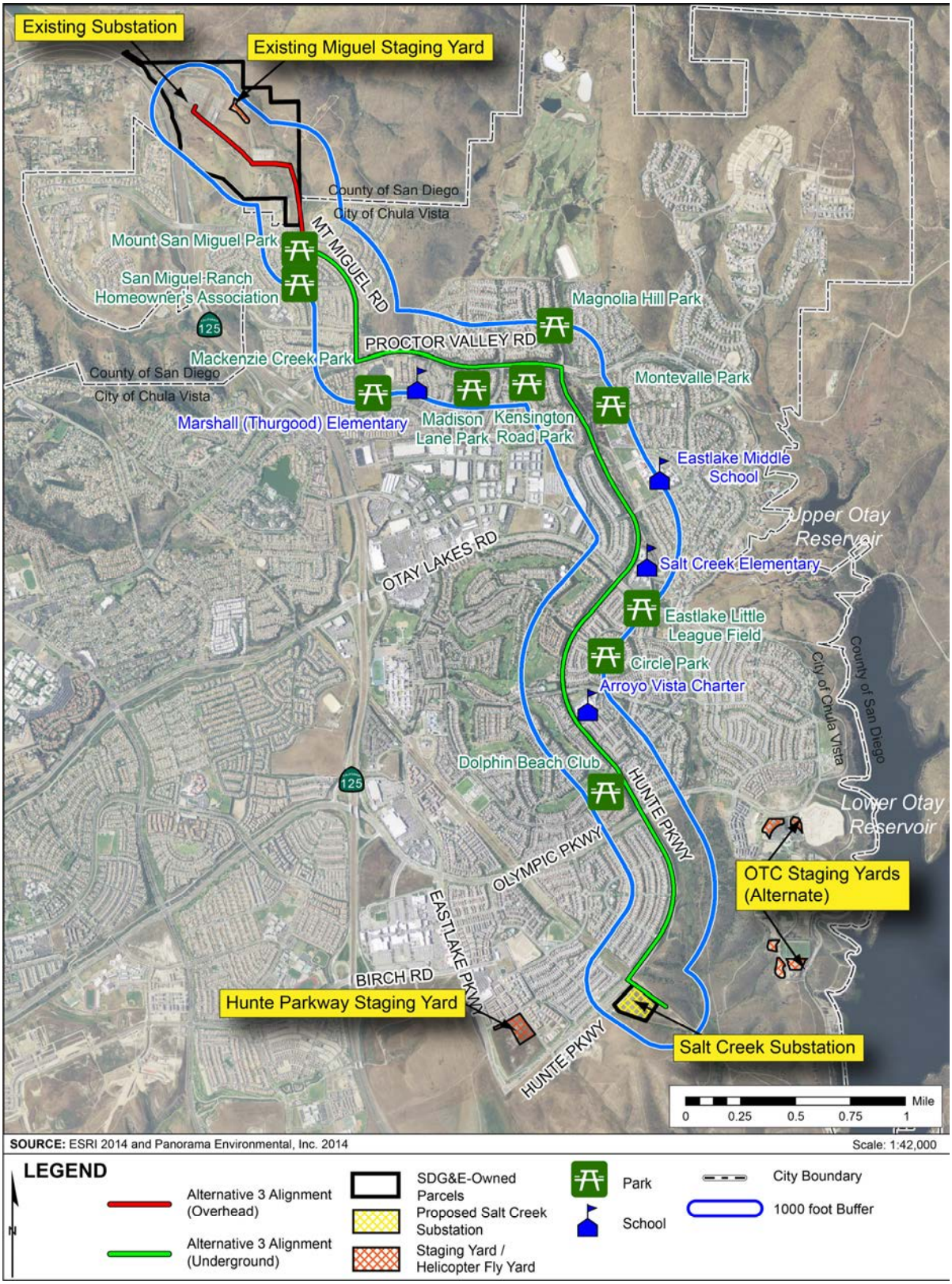
Environmental Setting

The existing noise conditions and noise-sensitive receptors described for the proposed substation and Hunte Parkway and OTC staging yards in Section 4.11.1 would apply to this alternative. The noise conditions for TL 6965 would not apply to this alternative. Alternative 3 involves construction of an underground power line. The nearest noise-sensitive receptor to the underground alignment would be Mount San Miguel Park, located approximately 20 feet from the alignment. Residences would be located as close as 80 feet from the alignment, and Arroyo Vista Charter School, the nearest school to the underground alignment, would be located roughly 60 feet away. Refer to Figure 4.11-3 for the location of noise sensitive receptors along the Alternative 3 alignment.

Impacts and Mitigation Measures

69/12-kV Substation. Construction of the 69/12-kV substation would produce the same noise and groundborne vibrations as the proposed project because the 69/12-kV substation would be constructed in the same location and manner as the proposed substation. Temporary noise impacts would be the same as the proposed substation construction. SDG&E would implement APMs NOISE-1~~ and NOISE 3~~, which require functioning mufflers on construction equipment ~~and local approval for construction outside of permitted hours~~. Impacts would remain significant after implementation of APMs NOISE-1~~ and NOISE 3~~. SDG&E would implement Mitigation Measures Noise-1 and Noise-2 to reduce the amount of noise generated from construction, but the temporary increase in ambient noise level would remain substantial, as described for the proposed project. Impacts from a temporary increase in noise would be significant and unavoidable.

Figure 4.11-3 Sensitive Receptors along Alternative 3



Operation of the 69/12-kV substation would result in the same noise impacts as the proposed project because the substation would be operated in the same manner. The substation would not result in a substantial permanent increase in noise. Impacts would be less than significant.

69-kV Underground Power Line. Installation of the underground power line would involve site preparation, vault installation, trenching and duct bank installation, cable pulling and splicing, and cleanup along Mountain Miguel Road, Proctor Valley Road, and Hunte Parkway. Construction of the underground power line would require the same type of equipment that would be used for the proposed project. The maximum noise levels generated from typical construction equipment range from approximately 70 dBA to 90 dBA measured at 50 feet, with impact equipment (jackhammers, pavement breakers, and concrete saws) generating higher noise levels of 85 to 90 dBA at 50 feet (FHWA 2006).

Based on FHWA construction noise modeling procedures, the predicted average hourly noise levels for construction equipment associated with the underground transmission line alternative would be approximately 84 dBA L_{eq} at 50 feet during trenching and installation of the underground transmission line, with the use of impact equipment (pavement breakers, jackhammers, and concrete saws) producing the highest noise levels (SDG&E 2015). Sensitive receptors, including residences, parks, and schools, are located near the Alternative 3 underground alignment. Noise levels at sensitive receptors could be in excess of 80 dBA and more than 30 dBA above existing noise levels. These noise levels would be short-term and temporary because construction would be constantly moving along the underground alignment. Construction of the underground power line would result in a substantial temporary increase in noise levels. This would be a significant impact. APM NOISE-1 would reduce noise levels by requiring functioning mufflers on equipment; however temporary noise levels would still increase substantially resulting in a significant impact. Mitigation Measure Noise-1 requires SDG&E to notify the public prior to construction and Mitigation Measure Noise-3 requires SDG&E to coordinate with schools to reduce noise impacts. There would still be a substantial temporary increase in noise levels with mitigation. The impact from construction of the underground 69-kV power line would be significant and unavoidable.

None of the impacts associated with pole installation along TL 6965 or use of helicopters for line stringing would occur because Alternative 3 would not involve an overhead power line.

No Project Alternative

Under the No Project Alternative, SDG&E would meet energy needs of the southeast Chula Vista area by adding two additional transformer banks at the Proctor Valley Substation and installing additional distribution circuits in the Otay Ranch area. None of the facilities associated with the proposed project or alternatives evaluated in this EIR would be constructed. Therefore, none of the impacts to noise-sensitive receptors in this section would occur.

The two transformer banks at Proctor Valley Substation are currently approved and would be constructed even if the proposed project were constructed. Construction of the transformer banks at Proctor Valley Substation was previously considered, and there would be no additional impacts from substation construction under the No Project Alternative. Construction

of additional underground distribution circuits would result in additional noise generation in the vicinity of the distribution lines. Noise from underground distribution circuit installation is typically considered less than significant because vehicles and equipment move along the underground distribution alignment and the activity is less intensive than installation of a higher voltage power line.