3.3 AIR QUALITY

3.3.1 Environmental Setting

Climate, Meteorology, and Geography

Climate and meteorology are important considerations for air quality. Local dispersion and regional transport of air pollutants directly relate to prevailing meteorology. Diurnal, seasonal, and regional air pollution patterns are controlled by a variety of meteorological factors. Wind directions and speeds, and vertical temperature structure (inversions) are the primary determinants of transport and dispersion effects.

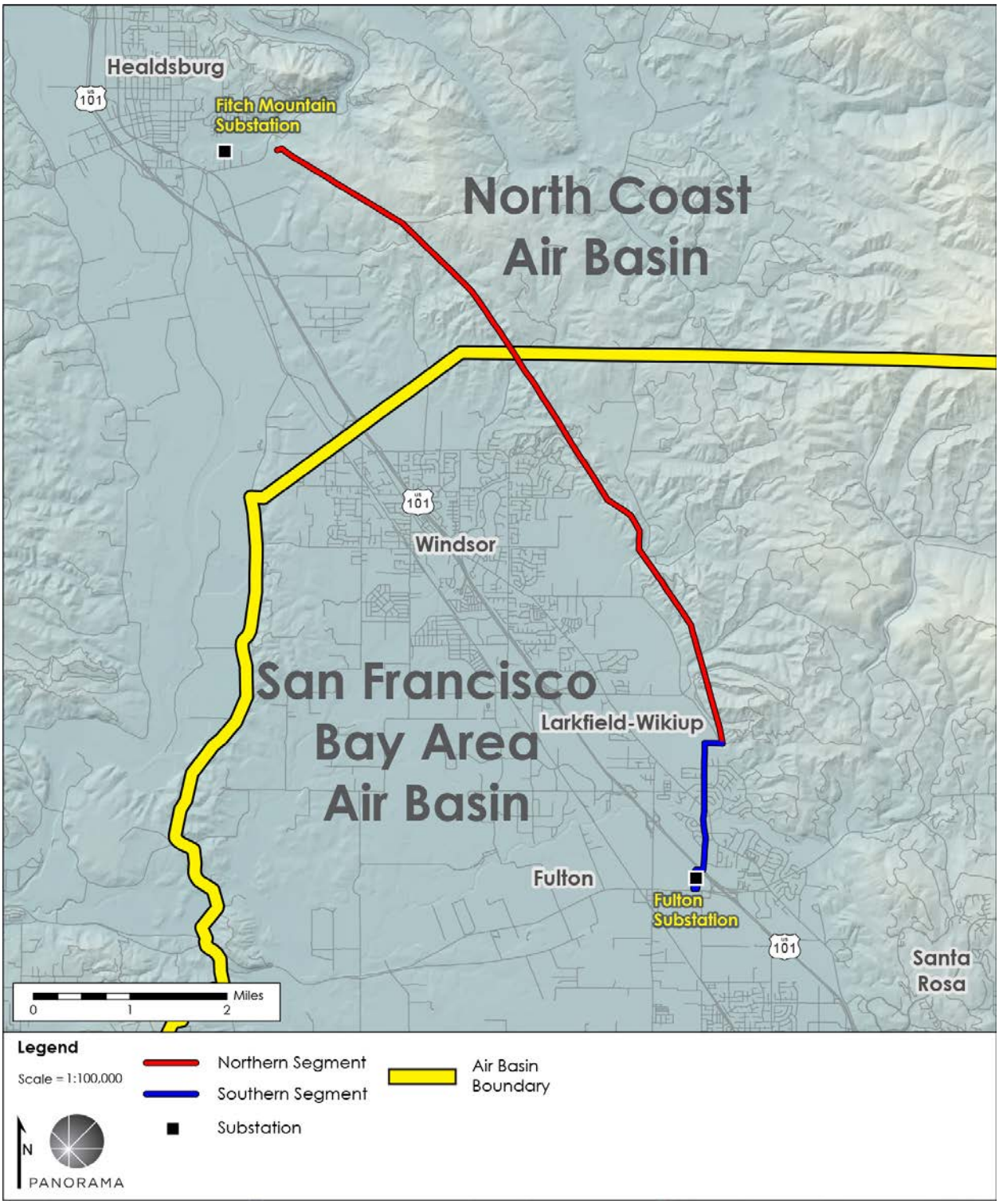
The proposed project would be located in central Sonoma County between the cities of Healdsburg and Santa Rosa in the Santa Rosa Valley. Average annual wind speeds in the Santa Rosa Valley are approximately 5 miles per hour. Average summer temperatures in the valley peak in the high 80s Fahrenheit (F) and drop to the low 50s F, while average winter temperatures peak in the high 50s F and drop to the upper 30s F. Most of the area's annual rainfall occurs during the period of November through March (Western Regional Climate Center 2010).

The Cotati Valley encompasses the valley in northern Sonoma County, north of the Petaluma Valley. The Cotati and Petaluma Valleys are naturally bounded by the Sonoma and Mayacamas Mountains to the east and north. The Coast Ranges bound the western side of the valleys. The Petaluma Valley lies in line with Petaluma Gap, a band of low land south of the Santa Rosa Valley that extends from the Pacific Ocean to San Pablo Bay. As marine air travels east through the Petaluma Gap, the air splits and travels northward into the Cotati Valley and southward into the Petaluma Valley. Due to the Cotati Valley's shape and orientation, air pollutants may become concentrated during stagnant conditions. This condition could occur during periods of temperature variation within the day with low marine airflow through the Petaluma Gap. This situation could be intensified by up-valley flow of warm air during the day from the Petaluma Valley becoming trapped against the mountains to the north and east (BAAQMD 2017a).

Air Basins

The project alignment would be located within the San Francisco Bay Area Air Basin (SFBAAB) and the North Coast Air Basin (NCAB), as shown in Figure 3.3-1. The SFBAAB covers roughly 5,340 square miles and consists of Napa, Marin, San Francisco, Contra Costa, Alameda, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the western portion of Solano County. This air basin includes major urbanized areas, encompassing a population of about 7,000,000. The NCAB is primarily rural and mountainous, and encompasses northern Sonoma, Mendocino, Humboldt, and Del Norte counties. The population within the NCAB is roughly 250,000. The two air basins are distinct and face very different air pollution control problems.

Figure 3.3-1 Air Basins in the Proposed Project Area



Sources: (ESRI 2016, PG&E 2016, CalEPA 2004)

The Bay Area Air Quality Management District (BAAQMD) is the state regulatory body responsible for air quality-related activities in SFBAAB. The Northern Sonoma County Air Pollution Control District (NSCAPCD) is the state regulatory body responsible for air quality-related activities in the portion of NCAB in which the proposed project is located.

Air Pollutants Standards and Definitions

Overview

The US Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) designate air basins per federal and state air quality standards for criteria air pollutants. USEPA standards are set to protect public health. USEPA has set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants that include: Ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and particulate matter. Particulate matter criteria pollutants are classified as either respirable particulate matter less than 10 micrometers in diameter (PM_{10}), or fine particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$). CARB has set California Ambient Air Quality Standards (CAAQS) for four pollutants in addition to the six NAAQS criteria pollutants: sulfates, hydrogen sulfide (H_2S), vinyl chloride (C_2H_3Cl), and visibility-reducing particles.

Table 3.3-1 lists the NAAQS and CAAQS for the criteria air pollutants at different averaging periods, and the primary and secondary standards for each. Primary standards are the levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards are the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Ozone (O_3)

Ozone is found in the upper atmosphere (as the ozone layer) as well as at ground level. At ground level, ozone is considered a pollutant. Ozone forms when ozone precursors (reactive organic gases [ROGs], CO, nitrogen oxides [NO_x]) react with sunlight in the atmosphere. Sources of these precursors include fuel combustion in vehicles and industrial processes, gasoline vapors, and chemical solvents. Ozone can cause respiratory problems (i.e., chest pain, coughing, throat irritation) as well as exacerbate existing respiratory problems, such as asthma and bronchitis (USEPA 2016a). Ozone emissions have steadily decreased in the San Francisco Bay Area over the last 35 years. Ozone NAAQS exceedances in the SFBAAB occurred on 7 days in 2015 compared to 36 days in 1980 (CARB 2015c).

Carbon Monoxide

CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest in the winter morning when surface-based inversions trap the pollutant at ground levels. CO is emitted directly from internal combustion engines. The primary source of CO in urban areas is from motor vehicles. As such, higher concentrations are found along transportation corridors. Exposure to CO results in reduced oxygen-carrying capacity of the blood. High CO concentrations can result in health risks, particularly for individuals with compromised cardiovascular systems (USEPA 2016a). BAAQMD air pollutant

Table 3.3-1 NAAQS and CAAQS for Criteria Air Pollutants

Pollutant	Averaging Time	CAAQS [a]	NAAQS [b]	
			Primary	Secondary
O_3	1 Hour	0.09 ppm (180 µg/m³)	–	–
	8 Hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³) [c]	0.070 ppm (137 µg/m³) [c]
CO	1 Hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	–
	8 Hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	–
NO_2	1 Hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	–
	AAM	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	0.053 ppm (100 µg/m³)
SO_2	1 Hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	–
	3 Hours	–	–	0.5 ppm (1,300 µg/m³)
	24 Hours	0.04 ppm (105 µg/m³)	0.14 ppm (365 ug/m³) [d]	–
	AAM	–	0.030 ppm (81 ug/m³) [d]	–
Pb	30-Day Average	1.5 µg/m³	–	–
	Calendar Quarter	–	1.5 µg/m³ [e]	1.5 µg/m³ [e]
	Rolling 3-Month Average	–	0.15 µg/m³	0.15 µg/m³
PM_{10}	24 Hours	50 µg/m³	150 µg/m³ [f]	150 µg/m³ [f]
	AAM	20 µg/m³	–	–
$PM_{2.5}$	24 Hours	–	35 µg/m³ [g]	35 µg/m³ [g]
	AAM	12 µg/m³	12.0 µg/m³	15 µg/m³
Sulfates	24 Hours	25 µg/m³	–	–
H_2S	1 Hour	0.03 ppm (42 µg/m³)	–	–
C_2H_3Cl	24 Hours	0.01 ppm (26 µg/m³)	–	–
Visibility Reducing Particles	8 Hours	Extinction coefficient of 0.23 per kilometer	–	–

Notes:

[a] Pollutant concentrations should not exceed CA standards for O_3, CO, SO_2 (1- and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles. Pollutant concentrations shall not equal or exceed any other concentrations.

[b] Pollutant concentrations should not exceed national standards (other than O_3, particulate matter, and those based on AAM) more than once per year. Annual standards should never be exceeded.

[c] An area achieves the O_3 standard when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard.

[d] Applies to areas of nonattainment; however, there are no SO_2 nonattainment areas in California.

[e] Applies to areas of Pb nonattainment in Los Angeles County only.

[f] An area achieves the PM_{10} 24-hour standard when the expected number of days per calendar year with a 24-hour average concentration greater than 150 µg/m³ is equal to or less than 1.

[g] An area achieves the $PM_{2.5}$ 24-hour standard when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

mg/m³: milligrams per cubic meter

µg/m³: micrograms per cubic meter

ppb: parts per billion

ppm: parts per million

AAM: Annual Arithmetic Mean

Source: (CARB 2016)

monitoring data indicate that CO levels have been at healthy levels (i.e., below state and federal standards) in SFBAAB since the early 1990s. As a result, the region was re-designated as attainment for the CO standard in the late 1990s (CARB 2004). The highest measured level of CO over any 8-hour averaging period in the SFBAAB during recent years is less than 3.0 ppm, compared to the ambient air quality standard of 9.0 ppm (BAAQMD 2014a).

Nitrogen Dioxide

NO_2 is formed during combustion of fossil fuels from vehicles and industrial processes. NO_2 is an ozone precursor, and can also cause acid rain and acid snow. Health effects of NO_2 include respiratory airway inflammation in healthy people and exacerbation of preexisting asthma (USEPA 2016a).

Sulfur Dioxide

SO_2 is a colorless, acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter, and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain (USEPA 2016a). Pollutant trends suggest that the SFBAAB currently meets, and will continue to meet, the state standard for SO_2 for the foreseeable future.

Lead

Pb has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in decreasing levels of atmospheric Pb. Most aviation gas (general aviation fuel for piston engines) also contains Pb. Pb is a highly stable compound that accumulates in the environment and in living organisms. In humans, Pb exposures can interfere with the maturation and development of red blood cells, affect liver and kidney functions, and cause nervous system damage (USEPA 2016a). Ambient Pb concentrations meet both the federal and state standards in the SFBAAB.

Respirable Particulate Matter

Particulate matter is a combination of liquid and solid particles suspended in the air. PM_{10} particles are smaller than 10 micrometers in diameter—typically dust, pollen, and mold. Liquid particles include those from sprays and other toxic chemical compounds. PM_{10} particles are a threat to health because they can enter the lungs and are small enough that the respiratory system cannot naturally filter them out. PM_{10} can exacerbate asthma and bronchitis, and potentially contribute to premature death (USEPA 2016a).

Fine Particulate Matter

Particulate matter is a combination of liquid and solid particles suspended in the air. $PM_{2.5}$ particles are smaller than 2.5 micrometers in diameter—typically combustion particles, organic compounds, and metal particles. $PM_{2.5}$ is considered more hazardous to human health than

PM_{10} because it can contain a larger variety of dangerous components than PM_{10}, and can travel farther into the lungs, potentially causing scarring of lung tissue and reduced lung capacity (USEPA 2016a).

Air Basin Designations

USEPA and CARB designate areas based on the attainment status for air quality standards (NAAQS or CAAQS). Attainment areas meet or exceed ambient air quality standards and nonattainment areas do not. Nonattainment areas are sometimes classified by degree of underperformance (i.e., marginal, moderate, serious, severe, and extreme). If there is insufficient air quality monitoring data to support a classification, the area is unclassified. It is generally assumed that unclassified areas are meeting the ambient air quality standard. Table 3.3-2 lists USEPA and CARB attainment designations by pollutant for the SFBAAB and NCAB. The SFBAAB faces attainment issues over ozone and particulate matter, which is typical in highly urbanized areas. The NCAB does not face these same issues due to the low and dispersed population within the air basin.

Table 3.3-2 Air Basin Designations

Pollutant	SFBAAB (South Sonoma County)		NCAB (North Sonoma County)	
	USEPA Designation	CARB Designation	USEPA Designation	CARB Designation
O_3	Marginal Nonattainment	Nonattainment	Unclassified	Attainment
CO	Attainment	Attainment	Unclassified	Unclassified
NO_2	Attainment	Attainment	Unclassified	Attainment
SO_2	Attainment	Attainment	Unclassified	Attainment
Pb	Attainment	Attainment	Unclassified	Attainment
PM_{10}	Unclassified	Nonattainment	Unclassified	Attainment
$PM_{2.5}$	Moderate Nonattainment	Nonattainment	Unclassified	Attainment
Sulfates	N/A	Attainment	N/A	Attainment
H_2S	N/A	Unclassified	N/A	Unclassified
Visibility Reducing Particles	N/A	Unclassified	N/A	Unclassified

Sources: (BAAQMD 2016, CARB 2015b)

Toxic Air Contaminants

Health Effects

Toxic air contaminants (TACs), also referred to as hazardous air pollutants or air toxics, are a broad class of compounds known to have the potential to cause morbidity or mortality (i.e., have carcinogenic qualities). TACs are substances identified by the California Environmental Protection Agency (CalEPA) listed in Title 17 CCR § 93000. TACs are air

pollutants that may pose a present or potential hazard to human health. TACs can cause long-term health effects, including but not limited to cancer, asthma, and neurological damage, as well as short-term health effects, including but not limited to eye watering and headaches. Diesel exhaust is the predominant TAC in urban air, and is estimated to contribute more than 85 percent of the total inventoried cancer risk in the SFBAAB (BAAQMD 2014b). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. Some of the gaseous components of diesel exhaust, such as benzene, formaldehyde, and 1,3-butadiene, are suspected or known to cause cancer in humans. The particulates in diesel exhaust (diesel particulate matter) are mainly comprised of aggregates of spherical carbon particles coated with inorganic and organic substances (CARB 1998).

Helicopter fuel, including aviation turbine fuel or aviation gasoline, has the potential to cause long-term health effects, including neurological damage. Aviation gasoline contains air toxics such as formaldehyde. The full extent of long-term health effects from helicopter fuel have not been fully studied (Agency for Toxic Substances and Disease Registry 2016).

USEPA regulates hazardous air pollutant emissions for mobile sources through Section 202(l) of the Clean Air Act and the Control of Hazardous Air Pollutants from Mobile Sources (Final Rule). The rule regulates fuel, reducing mobile source air toxics emissions (USEPA 2016b). CARB has also adopted Airborne Toxic Control Measures (ATCMs) to reduce airborne toxics emissions, including measures that apply to mobile sources (CARB 2015a).

Sensitive Receptors

BAAQMD defines sensitive receptors as land uses and facilities where sensitive populations are likely to be located (BAAQMD 2017a). Sensitive receptors can be categorized as follows:

- Residences (i.e., houses, apartments, retirement homes)
- Active recreational land uses (i.e., sports fields, parks)
- Medical facilities (i.e., hospitals, long-term health care facilities)
- Eldercare facilities (i.e., convalescent homes)
- Schools and playgrounds
- Childcare centers

Sensitive receptors have varying degrees of sensitivity to TACs. Residential areas are sensitive to poor air quality because people are often at home for extended periods. Active recreational land uses have a moderate sensitivity because vigorous exercise places a high demand on respiratory function. Some receptors are considered more sensitive to air pollutants than others because of preexisting health problems, proximity to an emissions source, or duration of exposure to air pollutants. Facilities and land uses that have a relatively high sensitivity to poor air quality include schools, childcare centers, playgrounds, hospitals, and convalescent homes, because children, the elderly, and the sick are more susceptible to respiratory infections and other air quality-related health problems than the general public. Children under 16 years of age are more susceptible to carcinogens compared to adults. As such, child care centers and schools are considered the highest risk sensitive receptors. BAAQMD recommends identifying sensitive receptors generally within 1,000 feet of a project site (BAAQMD 2017a).

Sensitive Receptors Near Project

The area around and including the proposed project is a mix of residential and commercial uses. Sensitive receptors within 1,000 feet of the proposed project include residences, active recreational facilities, schools, childcare facilities, and eldercare facilities. The distances between the sensitive receptors and specific project components are identified in Table 3.3-3.

Table 3.3-3 Sensitive Receptors within 1,000 Feet of the Proposed Project

Receptor Type	Receptors within 1,000 feet [a]	Project Feature [b]	Approximate Distance to Closest Receptor (feet) [c]
Southern Segment			
Residences	Numerous residences	Staging Areas/Helicopter LZs	20
		Pull Sites and Pole Work Areas	20
Active Recreational Facilities	Maddux Ranch Regional Park (ball fields)	Staging Areas/Helicopter LZs	30
Schools	Mark West Elementary School	Staging Areas/Helicopter LZs	40
		Pole Work Areas	0
	Mark West Charter School	Staging Areas/Helicopter LZs	40
		Pole Work Areas	Within property boundary
	San Miguel Elementary School	Staging Areas/Helicopter LZs	800
		Pull Site	900
		Pole Work Areas	Within property boundary
Childcare Centers	Tiny Treasures Preschool	Pole Work Areas	760
	The Cove Fellowship	Staging Areas	60
		Pole Work Areas	140
Eldercare Facility	Redwood Retreat	Pole Work Areas	585
Northern Segment			
Residences	Numerous residences	Staging Areas/Helicopter LZs	75
		Helicopter Touch Down Areas	400
		Pull Site	350
		Pole Work Areas	100
Fitch Mountain Substation			
Residences	Several residences	Substation Fence Line	0

Notes:

[a] 1,000 feet from the project alignment (e.g., conductor and poles), and the Fitch Mountain Substation.

[b] This table conservatively represents construction work areas with the greatest potential emissions.

[c] Distances are measured to the closest property boundary.

Sources: (ESRI 2016, PG&E 2016)

Objectionable Odors

Odors are generally considered an annoyance as opposed to a health hazard. Siting a land use that generates odors near existing sensitive receptors, or siting a new sensitive receptor near an existing odor source could result in an odor impact. Land uses that generate considerable odors include wastewater treatment plants, landfills, and refineries. The quality and intensity of an odor determines what level of impact an odor could have on sensitive receptors (BAAQMD 2017a).

The project alignment is located within residential, rural residential, and agricultural land uses. Agricultural activities in the area can produce odors that may be objectional to some people, including odors associated with animal manure, fertilizer, and pesticides. There are no concentrated odors from commercial activities near the project (e.g., landfills, refineries, confined animal feeding operations).

3.3.2 Impact Analysis

Summary of Impacts

Table 3.3-4 presents a summary of the CEQA significance criteria and impacts on air quality that would occur during construction, operation, and maintenance of the proposed project.

Table 3.3-4 Summary of Proposed Project Impacts on Air Quality

Would the proposed project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Impact Discussion

a) Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?	Significance Determination
	Less than significant

The applicable air quality plans for the project area within Sonoma County are the 2017 Clean Air Plan (CAP), and the San Francisco Bay Area 2001 Ozone Attainment Plan for the 1-Hour National Ozone Standard (Ozone Attainment Plan). BAAQMD has authority over stationary and some area sources. However, BAAQMD coordinates with appropriate agencies, including ABAG, CARB, CEC, and CPUC, to implement control measures for other sources including mobile and energy sources.

The NSCAPCD does not have any air quality plans that would be applicable to the project as they are in attainment or unclassified for all criteria pollutants.

Construction

2017 Clean Air Plan

BAAQMD prepared the 2017 CAP to address nonattainment in the SFBAAB for both the 1- and 8-hour state ozone standards. The 2017 CAP details a control strategy to address ozone and ozone precursors (ROGs and NO_x), particulate matter (primarily $PM_{2.5}$), air toxics, and greenhouse gases (GHGs). The 85 control measures are categorized into nine economic sectors including transportation, energy, agriculture, and natural and working lands (BAAQMD 2017b). The proposed project would conflict with or obstruct the 2017 CAP if (1) proposed control measures are inconsistent with the control measures identified in the Plan, and/or (2) construction of the proposed project generated criteria pollutant, toxic air contaminants, or GHG emissions (refer to Section 3.7: Greenhouse Gas Emissions for analysis) that exceed numerical thresholds defined by BAAQMD to attain the goals and objectives of the 2017 CAP.

Control Measures

The project would involve reconductoring existing transmission and power lines. Several transportation control measures apply to the proposed project including incentives to promote ridesharing (TR8), incentives to purchase new trucks that exceed NOx emission standards, hybrid trucks, or zero-emission trucks (TR19), and incentives to deploy construction and farm equipment with Tier III or IV off-road engines (TR22). The applicable transportation control measures are incentive measures and do not require vehicle upgrades or retrofits. The project would not conflict with implementation of incentives to upgrade vehicles. Two applicable stationary source control measures pertain to reducing ROG emissions from coatings, solvents, lubricants and adhesives (SS25), and particulate matter from soil trackout (SS36). Specific regulations achieving these control measures have not been prepared or adopted. The proposed project would not conflict with or obstruct implementation of the control measures defined in the 2017 CAP.

Construction Emissions

Estimated combustion emissions during construction of the proposed project would not exceed the numerical significance thresholds for ozone and ozone precursors prepared by BAAQMD, as shown in Table 3.3-5 (refer to Impact b) below). Air toxic emissions generated during construction would not result in significant impacts on sensitive receptors, as analyzed further under Impact d) below. BAAQMD does not set numerical thresholds for fugitive dust generated during construction; however, BAAQMD requires implementation of BMPs to control fugitive dust. The proposed project would not conflict with the GHG thresholds defined by BAAQMD to meet the 2017 CAP goals and objectives (refer to Section 3.7: Greenhouse Gases). The impact could be significant if the BMPs for fugitive dust control were not implemented during construction.

PG&E would implement APM AIR-1 and APM AIR-2 to comply with BAAQMD fugitive dust controls by requiring procedures such as watering exposed soil, proper equipment maintenance, and limiting equipment and vehicle idling time. Fugitive dust emissions would be controlled and reduced by 80 percent with application of APMs AIR-1 and AIR-2 (refer to Appendix C for calculations). The proposed project would comply with BAAQMD thresholds and strategies identified to achieve the goals of the 2017 CAP. The impact would be less than significant with implementation of APMs.

2001 Ozone Attainment Plan

BAAQMD prepared the 2001 Ozone Attainment Plan to reduce ozone-forming emissions in the SFBAAB by implementing emissions reductions measures for stationary, area, and mobile sources, such as reductions in off-gassing of architectural coatings and organic liquids, low emissions vehicles, expansion of express bus systems, and bicycle and pedestrian programs. The 2001 Ozone Attainment Plan was adopted on November 1, 2001 as a revision to the California State Implementation Plan (BAAQMD 2001). The 2001 Ozone Attainment Plan identified proposed control measures for stationary, area, and mobile sources to improve air quality and re-attain the national 1-hour ozone standard in the SFBAAB. One proposed mobile source control measure applies to the proposed project, which recommends implementation of an "Enhanced" Inspection and Maintenance program for on-road motor vehicles. On-road motor vehicles used during construction must be inspected biennially as part of the currently enforced enhanced Inspection and Maintenance program, also known as a smog check. One proposed area source control measure applies to the proposed project, which requires reduced ROG content in architectural coatings (SS-11). Architectural coatings on the proposed control building would be required to comply with BAAQMD Regulation 8, Rule 3, Architectural Coatings. The proposed project would not conflict with the adopted area source control measure. No impact would occur.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be approximately the same as existing conditions. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities in the same manner. Population growth would not be induced as the project is only a reconductor of existing utility infrastructure at the same voltage.

Emissions generated by equipment and vehicles during operation and maintenance of the proposed project would not be greater, nor would it conflict with the 2017 CAP or the 2001 Ozone Attainment Plan. No impact would occur.

Required APMs and MMs: APM AIR-1 and APM AIR-2

b) Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	**Significance Determination**
	Less than significant

BAAQMD publishes CEQA guidelines to assist lead agencies in evaluating a project's potential impacts on air quality. In December 1999, BAAQMD adopted its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The BAAQMD CEQA Guidelines is an advisory document, and local jurisdictions are not required to utilize its methodology. The CEQA Guidelines document describes the criteria that BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

BAAQMD adopted new thresholds of significance (BAAQMD thresholds) on June 2, 2010, to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released new CEQA Guidelines in May 2011, which advise lead agencies on how to evaluate potential air quality impacts with the adopted new thresholds of significance. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted its 2010 thresholds of significance. While the court did not determine whether the thresholds were valid, it did find that the adoption of the thresholds was a project under CEQA, and therefore BAAQMD should have conducted environmental review. Thus, the court set aside the thresholds and ordered BAAQMD to cease dissemination of them until it had complied with CEQA. The case was appealed to the First District Court of Appeal and the California Supreme Court and, most recently, heard again by the Court of Appeal on remand from the Supreme Court. The case has been remanded to the trial court for further action consistent with the Supreme Court and appellate court decisions.

BAAQMD thresholds are provided for informational purposes and are not required to be used by lead agencies in their environmental documents. However, nothing in the court's decision prohibits an agency's use of BAAQMD thresholds to assess the significance of a project's air quality impacts. Therefore, based on substantial technical research that went into the preparation of the thresholds by BAAQMD, the BAAQMD thresholds and the methodologies in

its 2017 Air Quality CEQA Guidelines (updated May 2017)[1] were used in this analysis to determine the significance of proposed project impacts on air quality. BAAQMD thresholds are shown in Table 3.3-5.

NSCAPCD has not prepared numerical significance thresholds for criteria air pollutants for construction. The NCAB generally does not face the same air quality issues as the SFBAAB due to limited population and limited number of urbanized areas located within the basin. BAAQMD's air quality standards, particularly for ROG, NO_x, and exhaust-related particulate matter, are targeted to address air quality issues associated with heavy vehicle use in the SFBAAB (among others). Construction activities in the NSCAPCD portion of Sonoma County are regulated by the following rules (CARB 2017):

- **NSCAPCD Rule 400 (General Limitations).** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **NSCAPCD Rule 410 (Visible Emissions).** A person shall not discharge into the atmosphere from any source whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringlemann Chart, as published by the United States Bureau of Mines; or of such opacity as to obscure an observer's view to a degree equal to or greater than Ringlemann 2 or forty (40) percent opacity.
- **NSCAPCD Rule 430 (Fugitive Dust Emissions).** The handling, transporting, or open storage of materials in such a manner which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:
  - Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.
  - Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Containment methods can be employed during sandblasting and other similar operations.
  - Conduct agricultural practices in such a manner as to minimize the creation of airborne dust.

[1] A subsequent update will be released to address outdated references, links, analytical methodologies or other technical information that may be in the 2017 Air Quality CEQA Guidelines or Thresholds Justification Report.

- The use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
- The application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.
- The paving of roadways and their maintenance in a clean condition.
- The prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

Construction

Construction for the proposed project would occur over an approximately ~~18~~12-month period between July 2018 and January 2020. Construction would occur for approximately ~~10 to 12~~8 months in the Northern Segment, ~~3 to 5~~4 months in the Southern Segment, and 2 to 3 months at Fitch Mountain Substation, with some overlap in construction.

Construction equipment, vehicles, and helicopters would generate criteria air pollutant emissions during proposed construction activities, including site development, material and equipment transport, pole replacement, and conductor replacement. Fugitive dust emissions (PM_{10} and $PM_{2.5}$) would result from ground-disturbing activities and from the operation of vehicles, equipment, and helicopters on unpaved surfaces. Particulate matter (from diesel exhaust), ROG, and NO_X pollutant emissions would result from vehicle and truck trips, and the use of heavy machinery and helicopters.

Construction emissions for the proposed project were estimated using California Emissions Estimator Model (CalEEMod). The emissions model incorporated information provided by PG&E regarding the duration and frequency of equipment use, area of ground-disturbing activities, and the proposed construction schedule. PG&E estimated approximately 2,132 haul truck trips during site improvements, and approximately 800 haul trucks truck trips would be required during pole delivery, LDSP installation, and TSP installation. PG&E assumed light- or medium-lift helicopters would be used for approximately 52 weeks, and heavy-lift helicopters would be used for approximately 2 weeks throughout the construction period based on the proposed construction approach and site accessibility. Construction emission modeling estimates assume the highest intensity of construction activities would occur for an 8-month period in the Northern Segment and a 5-month period in the Southern Segment when multiple construction activities would occur simultaneously. Construction activities could occur for a full ~~18~~12 months, but the intensity of daily activities would be reduced during periods when only one segment or area is under construction. Modeling assumptions used to estimate the air emissions and a detailed analysis of the project emissions are provided in Appendix C.

Construction would occur in two air basins: the SFBAAB and the NCAB. Emissions were analyzed in the air basin that they would be generated in, consistent with BAAQMD recommendations (Lau 2017). Construction emission estimates for criteria air pollutants are divided by the percentage of the project alignment that would occur in each air basin to accurately reflect the amount of emission generating activities that are proposed to occur in each air basin. Approximately 66 percent of the proposed project alignment is located within the SFBAAB and 34 percent is located within the NCAB. Table 3.3-5 and Table 3.3-6 summarize the estimated construction emissions for each air basin before implementation of APMs AIR-1 and AIR-2, and after implementation of APMs AIR-1 and AIR-2.

The proposed project would not exceed the quantitative significance thresholds for the portion of the project in the SFBAAB, as shown in Table 3.3-5. The construction exhaust emissions would not violate any numeric air quality standard or contribute to an existing air quality violation for ozone in the SFBAAB.

Table 3.3-5 Construction Emission Estimates for Work within SFBAAB

Criteria Air Pollutant	BAAQMD Significance Thresholds for Construction-related Average Daily Emissions (pounds/day)	Average Daily Construction Emission Estimates (pounds/day)	
		Before APMs AIR-1 and AIR-2	After APMs AIR-1 and AIR-2
ROG	54	37.20	37.10
NO_X	54	40.60	39.40
PM_{10} exhaust	82	1.28	1.24
$PM_{2.5}$ exhaust	54	1.27	1.23
CO	None	68.10	67.00
PM_{10} /$PM_{2.5}$ fugitive dust	BMPs	33.30	7.20

Sources: (BAAQMD 2017a, PG&E 2016, The RCH Group 2017)

Table 3.3-6 Construction Emission Estimates for Work within NCAB

Criteria Air Pollutant	Significance Criteria	Average Daily Construction Emission Estimates (pounds/day)	
		Before APMs AIR-1 and AIR-2	After APMs AIR-1 and AIR-2
ROG	None	19.10	19.10
NO_X	None	20.90	20.30
PM_{10} exhaust	None	0.66	0.64
$PM_{2.5}$ exhaust	None	0.65	0.63
CO	None	35.10	34.50
PM_{10} /$PM_{2.5}$ fugitive dust	BMPs	16.60	3.60

Sources: (BAAQMD 2017a, PG&E 2016, The RCH Group 2017)

Emissions generated in the NCAB under the jurisdiction of the NSCAPCD would not cause injury, detriment, nuisance or annoyance to any considerable number of persons; endanger the comfort, repose, health or safety of the public; or cause or have a natural tendency to cause injury or damage to business or property. Emissions would generally be emitted during construction activities from typical construction vehicles with limited grading and excavation. Most work would occur in rural areas with few residences, and residences that are exposed to construction would only be exposed for a short time because activities would only occur for a few days in each work area. Emissions from standard construction equipment would not cause injury, detriment, or damage. Emissions also would not violate Rule 410 regarding opacity because APM AIR-2 requires generalized procedures for operating and maintaining equipment and limits idling periods to the minimum necessary. Impacts from construction emissions of ROG, NO_X, and exhaust criteria pollutants for the portion of the project that falls within the NCAB would be less than significant.

Uncontrolled construction emissions, particularly from earth-moving activities, would generate approximately 9.2 tons of fugitive dust in the form of PM_{10} and $PM_{2.5}$ throughout the construction period (without implementation of APMs). Sources of fugitive dust would include disturbed soils at the construction site, and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit dust or mud on local streets, which would create an additional source of airborne dust. Fugitive dust emissions would vary from day to day depending on the nature and magnitude of construction activity and local weather conditions. Fugitive dust emissions would also depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. There is no numerical threshold for fugitive dust generated during construction in either the SFBAAB or the NCAB. The 2011 CEQA Air Quality Guidelines require control of fugitive dust through BMPs in order to consider impacts from fugitive dust emissions less than significant. NSCAPCD also has a list of BMPs that should be implemented to ensure less than significant impacts from construction projects. Fugitive dust emissions generated during construction have the potential to contribute to an existing air quality violation in the SFBAAB. Uncontrolled fugitive dust emissions would result in a significant impact.

PG&E would implement APM AIR-1 and APM AIR-2 to reduce fugitive dust emissions. APM AIR-1 requires procedures to reduce fugitive dust emissions by wetting soil during dry conditions, covering haul trucks, and managing soil track-out onto public roadways. APM AIR-2 requires generalized procedures for operating and maintaining equipment, and limiting idling periods to the minimum necessary. APM AIR-1 and APM AIR-2 would implement BAAQMD's recommended BMPs, and would encompass all the NSCAPCD's BMPs listed in Rule 430. The APMs include watering exposed surfaces, minimizing idling time, minimizing vehicle speeds, and other practices, which would meet 2011 CEQA Air Quality Guideline and NSCAPCD's requirements for control of fugitive dust emissions to reduce the impact to less than significant. After implementation of APM AIR-1, fugitive dust emissions would be reduced to 2.0 tons throughout the construction period. The impact from violation of

an air quality standard or contribution to an existing air quality violation would be less than significant after implementation of APMs.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be the same as the operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities in the same manner and frequency. Emissions generated by equipment and vehicles during operation and maintenance of the proposed project would not be greater than under existing conditions. No impact would occur.

Required APMs and MMs: APM AIR-1 and APM AIR-2

c) Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	**Significance Determination**
	Less than significant

The NCAB is in attainment for all pollutants and, therefore, is not addressed further in this impact analysis.

The SFBAAB is designated as a nonattainment area for ozone and $PM_{2.5}$ under both NAAQS and CAAQS. The SFBAAB is designated as nonattainment for PM_{10} under CAAQS, but not NAAQS, and has attained both state and federal ambient air quality standards for CO. The proposed project could have a cumulatively considerable impact on air quality if it either (1) resulted in emissions above the significance thresholds or (2) the project would violate any action in an attainment plan.

BAAQMD prepared the 2001 Ozone Attainment Plan to reduce ozone-forming emissions in SFBAAB to achieve attainment of NAAQS and CAAQS ozone standards (BAAQMD 2001). BAAQMD has established thresholds of significance for ozone precursor pollutants (ROGs and NO_X) and particulate matter (PM_{10} and $PM_{2.5}$). The thresholds for air pollutants and their precursors to attain and maintain ambient air quality standards are also the thresholds at which a project would be considered to have a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment.

Construction

As analyzed under Impact b) above, the emissions generated during construction of the proposed project would not exceed the significance thresholds for ROGs or NO_X, which are precursors to ozone. BAAQMD has not adopted numerical thresholds for emissions of particulate matter (both $PM_{2.5}$ and PM_{10}). The proposed project would involve grading and earth disturbance, which would produce fugitive dust and could result in a cumulatively considerable contribution to particulate matter (both $PM_{2.5}$ and PM_{10}) from generation of fugitive dust in the SFBAAB, which would be a significant impact.

PG&E would implement APM AIR-1 and APM AIR-2 to reduce fugitive dust and exhaust emissions during construction by requiring procedures such as watering of exposed soil, proper equipment maintenance, and limiting idling of construction vehicles and equipment. APM AIR-1 and APM AIR-2 would reduce particulate matter (fugitive dust and exhaust) emissions by more than 70 percent and comply with the BAAQMD recommended source reduction measures for fugitive dust. Construction of the proposed project would not contribute substantially to criteria pollutants in nonattainment with application of APMs. The impact would be less than significant with implementation of APMs.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be the same as the operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities in the same manner and frequency. Emissions generated during operation and maintenance would not be greater than under existing conditions. No impact would occur.

Required APMs and MMs: APM AIR-1 and APM AIR-2

d) Would the proposed project expose sensitive receptors to substantial pollutant concentrations?	**Significance Determination**
	Less than significant

Construction

CO Concentrations

CO emissions from construction traffic could result in localized pollutant impacts. Congested intersections with a large volume of traffic have the greatest potential to cause high, localized concentrations of CO. The proposed project would generate a relatively small amount of temporary construction traffic. The 2011 CEQA Air Quality Guidelines indicate that a proposed project would significantly impact CO levels if project traffic increases traffic volumes at intersections to more than 44,000 vehicles per hour.[2] Construction of the Southern Segment would generate a maximum of 442 trips per day (refer to Section 3.15: Transportation and Traffic for analysis). As such, construction traffic would not cause traffic levels to exceed 44,000 vehicles per hour at any intersection. The impact on sensitive receptors from CO concentrations would be less than significant.

[2] The BAAQMD CEQA Air Quality Guidelines state that a proposed project (excludes stationary source projects) would result in a less-than-significant impact to localized CO concentrations if the project would not increase traffic at affected intersections to more than 44,000 vehicles per hour.

Toxic Air Contaminants

Overview

The Office of Environmental Health Hazard Assessment (2015) does not recommend assessing cancer risk for projects that last less than 2 months at the maximally-exposed individual resident or sensitive receptor. Activities could occur at helicopter LZs and staging areas for more than 2 months; however, maximum exposure to sensitive receptors from air toxics would not occur from helicopter use or staging because equipment activity at helicopter LZs and staging yard would be limited to at most only a few hours a day. Emissions would not be continuous. Activities at staging areas would generally not generate emissions throughout the day, and receptors in proximity to helicopter LZs would only be exposed to emissions during helicopter landing and takeoff. Staging areas could be graded and gravel applied, but grading would occur for less than 2 months. Intensive construction activities at pole work areas and pulling sites would move along the alignment throughout the duration of construction and the maximally-exposed receptor would only be exposed to emissions for a few days; therefore, a health hazard risk assessment was not conducted. The discussion of TACs below provides information on general exposures to TACs that could occur during construction based on the proposed construction activities and equipment types.

Diesel-powered equipment and vehicles such as haul trucks, back hoes, and cranes would be used during construction of the proposed project. Operation of diesel-powered equipment would generate diesel exhaust emissions. Helicopters would also be used during construction, which would be fueled by either aviation turbine fuel or aviation gasoline.

Project construction would expose sensitive receptors to TACs produced by equipment and helicopters. The severity of exposure would depend on the types of adjacent sensitive receptors, proximity to construction activities, and duration of construction activities. These factors would vary between the Southern Segment, Northern Segment, and Fitch Mountain Substation. Staging areas would be used daily for approximately ~~3 to 5~~4 months in the Southern Segment and ~~10 to 12~~8 months in the Northern Segment; however, staging areas near the junction of the two segments may be used for up to ~~18~~12 months. Work activities at pull sites and pole work areas would be relatively dispersed and would occur periodically. Pull sites would be used for approximately 11 to 33 days during reconductoring. Pole work areas would typically be accessed for 1 to 2 days during site development, conductor removal, pole removal and installation, conductor installation, and cleanup and restoration. Construction at Fitch Mountain Substation would occur almost continuously for approximately 1 month at the beginning of construction ~~and~~, another month at the end of construction, and an additional three weeks to install an access road. The anticipated construction schedule and timing of work activities is described in detail in Section 2.6 of the Project Description.

Southern Segment

Construction in the Southern Segment would occur immediately adjacent to or near numerous residences, schools, childcare centers, and eldercare facilities, as listed in Table 3.3-3. Occupants of schools, childcare centers, and eldercare facilities are more sensitive to poor air quality. Minor ground-disturbing activities would occur in the Southern Segment. While construction vehicles

(i.e., line trucks and pickup trucks) and some equipment (i.e., cranes and generators) would be operated at pull sites and pole work areas, larger construction equipment would generally not be used in this segment. Construction activities closest to schools would occur at pole work areas (within the school's property boundary). Activities at pole work areas could occur for 12 hours a day for up to 13 days. Helicopters would be used for a limited time (up to 3 hours on two separate occasions). Staging areas near the border of the Southern and Northern Segments could be used for up to ~~18~~12 months; however, staging areas would generally only be used for a few months and the intensity and number of activities would be extremely limited. Use of heavy equipment and ground-disturbing activities would not occur at the staging areas. Generally, activities would be limited to a few hours during the mornings and evenings when construction workers and haul trucks arrive. Emission-generating activities would not occur continuously throughout the day. As such, the duration, intensity of activities, and equipment types would not place sensitive receptors at risk. Additionally, CCR § 2485 requires trucks with a gross vehicle weight rating over 10,000 pounds to idle no longer than 5 consecutive minutes except under extenuating circumstances. In addition, CCR § 2480 requires vehicles stopping at or within 100 feet of a school to not idle for more than 30 seconds. Idling restrictions would further limit impacts on sensitive receptors near staging yards and work areas in the Southern Segment. The impact on sensitive receptors from TACs along the Southern Segment would be less than significant.

Northern Segment

Construction in the Northern Segment would occur near multiple residences, as listed in Table 3.3-3. Construction activities closest to residences would occur at pole work areas (the nearest receptor would be 100 feet away) for 12 hours a day for up to 18 days. Ground-disturbing activities at pole work areas would be minor. Vehicles, large equipment, and helicopters would be used at pole work areas. The boundary of the closest staging area/helicopter LZ would be located 75 feet from a residence. Minor ground-disturbing activities would occur to prepare staging areas and helicopter LZs for use during construction. Construction vehicles and helicopters would use the staging area/helicopter LZ. Staging areas along the Northern Segment could be used for up to ~~12~~8 months. However, the intensity and number of activities that could occur at staging areas would be extremely limited and emission-generating activities would not occur continuously throughout the day. Sensitive receptors would not be at risk because of the short duration and low intensity of the work that would be performed. The impact on sensitive receptors from TACs along the Northern Segment would be less than significant.

Fitch Mountain Substation

Construction at Fitch Mountain Substation would occur immediately adjacent to several residences, as listed in Table 3.3-3. Construction activities at Fitch Mountain Substation would include equipment replacement and installation of a new control building. Minor ground-disturbing activities would be required. Vehicles and some large equipment would be used at the substation. Although construction activities could occur for a little less than 3 months total, the activities would not be consecutive, or require substantial emissions-generating activities, such as grading. Sensitive receptors would not be at risk because consecutive work would occur for less than 2 months, maximum, at a time. The impact on sensitive receptors from TACs at Fitch Mountain Substation would be less than significant.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be the same as operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities in the same manner and frequency. Emissions generated by equipment and vehicles during operation and maintenance of the proposed project would not be greater than under existing conditions. Localized emissions during operation and maintenance would not increase. No impact would occur.

Required APMs and MMs: None

e) Would the proposed project create objectionable odors affecting a substantial number of people?	**Significance Determination**
	No impact

BAAQMD does not have a significance threshold for odors created from construction activities. The significance criteria for operation of source types (i.e., landfills, wastewater treatment plants) known to emit odors is if the odor source has five or more confirmed odor complaints per year averaged over 3 years (BAAQMD 2017a).

Construction

Construction of the proposed project would generate some temporary odors from diesel exhaust emissions that could affect people in residential areas in the Sothern Segment. The concentration of diesel engines at one location could increase the odor and perception distance, but the increases would not be substantial or permanent. The duration of construction activities near individual residences would be limited to 1 month. Staging areas could be used for longer than 1 month, but activities that could generate diesel exhaust would be limited in duration per day and intensity. Construction of the proposed project would not exceed a BAAQMD significance threshold identified for odors. No impact would occur.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be approximately the same as the operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities in the same manner. Diesel emissions and the associated odor during operation and maintenance would not be greater than existing conditions. Additionally, the proposed project would not include a source of odors known to cause odor complaints. No impact would occur.

Required APMs and MMs: None

3.3.3 Required Applicant Proposed Measures and Mitigation Measures

APM AIR-1: Fugitive Dust Emissions

Per BAAQMD CEQA guidelines, PG&E will implement the following fugitive dust control measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) in active construction zones shall be watered two times per day during dry conditions.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers or equivalent method at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles-per-hour.
- Post a publicly visible sign at work areas where grading/blading and helicopter activities occur near public and residential areas with the telephone number and person to contact at PG&E regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's dust complaint phone number shall also be visible to ensure compliance with applicable regulations.
- Helicopter LZs shall be watered prior to takeoff and landings as needed in unvegetated areas in dry conditions.

Applicable Locations: All project areas

Performance Standards and Timing:

- **Before Construction:** Dust complaint signs are posted adequately
- **During Construction:** (1) Exposed surfaces are watered two times a day during dry conditions, (2) Haul trucks are adequately covered, (3) Soil track- out is adequately managed, (4) Vehicle speeds limits are maintained, and (5) Helicopter LZs are watered as needed prior to takeoff and landings
- **After Construction:** N/A

APM AIR-2: Exhaust Emissions

Per BAAQMD CEQA guidelines, PG&E will implement the following exhaust emission control measures:

- Minimize unnecessary construction vehicle and equipment idling time. The ability to limit construction vehicle idling time will depend on the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to use of diesel-powered vehicles and equipment. Clear signage shall be provided for construction workers at all access points.
- Construction equipment will be properly maintained by a certified mechanic. All off-road construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program will meet at a minimum the Tier 1 California Emission Standards for Off-Road Compression-Ignition Engines as specified in CCR Title 13, Chapter 9, Sec. 2423(b)(1).

Applicable Locations: All project areas

Performance Standards and Timing:

- **Before Construction:** Brief crews regarding idling limitations
- **During Construction:** (1) Idling of construction vehicle and equipment limited to 5 consecutive minutes to the greatest extent possible, and (2) A certified mechanic maintains construction equipment
- **After Construction**: N/A

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