# **10.1 Introduction**

This chapter describes the existing air quality within the project area and evaluates the potential incremental air quality impacts associated with the construction and operation of the project. Although some temporary impacts would result during construction activities, the potential air quality impacts of the project are less than significant for both construction and operation phases of the project. The project will not cause any objectionable odors, expose sensitive receptors to increased pollutant concentrations, or otherwise significantly affect air quality.

# 10.1.1 Methodology

Data supplied by the U.S. Environmental Protection Agency (EPA) (1985a and b) were used to develop construction emission estimates for the project. The sulfur dioxide ( $SO_2$ ) emissions are especially conservative because emission factors used from EPA reference documents do not reflect the use of reformulated diesel fuel, which is now mandated in California.

The potential impact of project construction activity on air quality is based on a "worst case" scenario using projections of the numbers and types of equipment that will be used during construction of the project. It is unlikely, however, that this scenario will occur. The following "worst case" assumptions were made:

- A fleet vehicle age of 10 years
- An average travel distance of 50 miles per day during construction
- A total project size of 6 acres
- All vehicles and equipment would be operated daily and simultaneously

# 10.1.2 Applicable Laws and Regulations

## **Federal Programs**

Federal Clean Air Act. National ambient air quality standards were established in 1970 for six pollutants: carbon monoxide (CO), ozone, particulate matter ( $PM_{10}$ ), nitrogen dioxide ( $NO_2$ ), sulfur dioxide ( $SO_2$ ), and lead (Pb). These pollutants are commonly referred to as "criteria" pollutants because they are considered the most prevalent air pollutants that are known to be hazardous to human health. The Act required states exceeding the standards to prepare air quality plans showing how the standards were to be met by December 1987. The Clean Air Act Amendments of 1990 directed EPA to set standards for toxic air contaminants and required facilities to sharply reduce emissions.

## California Programs

The California Clean Air Act requires regions to develop and implement strategies to attain California's ambient air quality standards. For some pollutants, the California standards are

more stringent than the national standards. Regional air quality management districts like the Bay Area Air Quality Management District (BAAQMD) must prepare an air quality plan specifying how federal and state standards will be met.

The Air Toxic "Hot Spots" Information and Assessment Act was enacted to identify toxic air contaminant hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects. The Act requires that a business or other establishment identified as a significant source of toxic emissions provide the affected population with information about heath risks posed by the emissions.

## **Bay Area Plans and Programs**

The Bay Area Air Quality Plan is a regional plan that addresses how the Bay Area will attain federal and state air quality standards. The plan states that major sources of emissions should install emission control devices and that new sources need to apply for air quality permits.

# **10.2 Existing Conditions**

## 10.2.1 Air Quality

The project lies within the San Francisco Bay Area Air Basin (Basin), a region that extends from Napa County to Santa Clara County. Three air quality designations can be given to an area for a particular pollutant:

- **Non-attainment.** This designation applies when air quality standards have not been consistently achieved.
- Attainment. This designation applies when air quality standards have been achieved.
- **Unclassified.** This designation applies when there is not enough monitoring data to determine if the area is non-attainment or attainment.

According to the California Air Resources Board (CARB) State Ambient Air Quality Standards (AAQS), the Basin is designated non-attainment for both ozone and particulate matter less than 10 microns ( $PM_{10}$  or "fugitive dust"). The AAQS for ozone is 0.09 parts per million (ppm) over a 1-hour averaging period, and for particulate matter less than 10 microns ( $PM_{10}$ ), the AAQS is 50 micrograms per cubic meter of air ( $\mu$ g/m<sup>3</sup>) averaged over 24-hours. The Basin is designated attainment for NO<sub>2</sub>, SO<sub>2</sub>, CO, sulfate particulates, and Pb particulates. By Federal standards, the Basin is also designated as non-attainment for 1-hour ozone and attainment for the annual arithmetic mean PM<sub>10</sub> standard. It is unclassified for the federal 24-hour PM<sub>10</sub> annual arithmetic mean and 24-hour PM<sub>25</sub> and 8-hour ozone standards. The BAAQMD (1993) has stated that Livermore has a high air pollution potential for ozone, CO, and PM<sub>10</sub>. Table 10-1 provides the California and Federal air quality standards and attainment status.

Bay Area Air Quality Management District (BAAQMD) Attainment Status as of April 1999

		California S	tandards	Federal Standards		
Pollutant	Averaging Time	Concentration	Attainment Status*	Concentration	Attainment Status	
Ozone	8 Hour			0.08 ppm	U	
	1 Hour	0.09 ppm	Ν	0.12 ppm	Ν	
Carbon Monoxide	8 Hour	9.0 ppm	А	9.0 ppm	А	
	1 Hour	20.0 ppm	А	35.0 ppm	А	
Nitrogen Dioxide	Annual			0.053 ppm	А	
	1 Hour	0.25 ppm	А			
Sulfur Dioxide	Annual			0.03 ppm	А	
	24 Hour	0.04 ppm	А	0.14 ppm	А	
	1 Hour	0.25 ppm	А			
PM <sub>10</sub>	Annual Geometric Mean	30.0 μg/m <sup>3</sup>	Ν	50 μg/m <sup>3</sup>	A <sup>†</sup>	
	24 Hour	50.0 μg/m <sup>3</sup>	Ν	150 μg/m <sup>3</sup>	U	
PM <sub>2.5</sub>	Annual Arithmetic Mean			15.0 μg/m <sup>3</sup>	U	
	24 Hour			65.0 μg/m <sup>3</sup>	U	

\* Attainment Status

N = Non-attainmentA = Attainment

U = Unclassified

<sup>†</sup>Annual arithmetic mean

### Ozone

Air quality in the Basin, with respect to ozone, has improved over the last decade. Although maximum hourly concentrations of ozone have remained relatively stable, the number of exceedances of both state (0.09 ppm averaged over 1 hour) and Federal (0.12 ppm averaged over 1 hour) standards has steadily decreased over the last 3 decades. However, 1995 marked the beginning of renewed exceedances of the Federal and State standards. These exceedances are generally attributed to unique meteorological patterns, combined with increases in emissions during the summers months. Urban vehicular emissions, industrial complex emissions, and high ambient temperatures in the Basin contribute to summertime ozone generation and subsequent air standard violations.

In Alameda County, State AAQS have been exceeded each year since 1992, as shown in Table 10-2. Peak hourly average ozone concentrations ranged from 0.11 to 0.16 ppm in the urban Livermore area during this time, as shown in Table 10-2. Table 10-3 shows data from the BAAQMD monitoring station located at Old 1<sup>st</sup> Street in downtown Livermore. This station, one of five monitoring stations within Alameda County, provides data that is most representative of the project area. Livermore is also the site where the highest ozone concentrations have been measured at the five monitoring stations.

Alameda County Exceedances of the State Ambient Air Quality Standards Between 1992 and 1997

	Ozone*		Carbon M	onoxide <sup>†</sup>	PM <sub>10</sub> ‡		
Year	Number of Exceedance Days	Maximum Hr. Conc. (ppm)	Number of Exceedance Days	Maximum Hr. Conc. (ppm)	Number of Exceedance Days	Maximum 24-hr. Conc ( <b>=g</b> /m <sup>3</sup> )	
1992	16	0.13	0	7	9	99	
1993	8	0.13	0	7	6	84	
1994	7	0.13	0	9	7	97	
1995	21	0.16	0	6	3	52	
1996	23	0.14	0	7	1	71	
1997	6	0.11	0	7	2	22	

#### TABLE 10-2

Source: CARB, 1993-1998.

\* The sampling frequency of ozone is continuous (hourly). The state ambient air quality standard for ozone is 0.9 ppm.

<sup>†</sup> The sampling frequency of CO is continuous (hourly). The state 1-hour ambient air quality standard for CO is 20 ppm.

<sup>‡</sup> Sampling of PM<sub>10</sub> is scheduled throughout California once every sixth day (a 24-hour sample). Therefore, each station has nominally 60 to 61 sampling days per year. All stations have the same schedule; that is, they all attempt to sample for PM<sub>10</sub> on the same days. The number of station-sampling days per county would depend on the number of PM<sub>10</sub> stations in the county. The state ambient air quality standard for PM<sub>10</sub> is 50 µg/m.

	Oz	Ozone		Monoxide	<b>PM</b> <sub>10</sub>		
Year	Annual Average Conc. (ppm)	Maximum Hr. Conc. (ppm)	Annual Average Conc. (ppm)	Maximum Hr. Conc. (ppm)	Annual Geometric Mean ( <b>⊒g</b> /m³)	Maximum 24-hr. Conc. ( <b>⊞g</b> /m³)	
1992	0.021	0.11	0.8	7	25.8	99	
1993	0.021	0.13	0.9	6	20.9	84	
1994	0.020	0.13	0.9	7	22.0	97	
1995	0.021	0.16	0.9	5	19.4	52	
1996	0.023	0.14	0.7	5	19.9	71	
1997	0.021	0.11	0.5	5	22.0	62	
1998		0.14					

Livermore Old 1st St. Station Annual Air Quality Measurements Between 1992 and 1998

Source: Bay Area Air Quality Management District, 1999. Taylor, personal communication, 1999. CARB, 1993-1998.

## Fugitive Dust (PM<sub>10</sub>)

Fugitive dust ( $PM_{10}$ ) is generated within the project area largely as a result of wind during dry conditions and from combustion sources. Between 1992 and 1997, the maximum 24-hour  $PM_{10}$  concentration within Alameda County was 99 µg/m<sup>3</sup>. This level was reached in 1992. The number of violations of the  $PM_{10}$  state air quality standards (that is, over 50 µg/m<sup>3</sup>) during 1992 to 1997 ranged from 9 out of 67 days in 1992, to 1 out of 66 sampling days in 1996.  $PM_{10}$  levels are elevated during the winter because of wood smoke, vehicle exhaust, and dry, windy conditions.

### Carbon Monoxide (CO)

Local air monitoring stations determined that the CO 1-hour air quality standard was not violated in the Livermore area during the last 6 years. Because there were no violations of the state (20 ppm) or federal (35 ppm) CO standard during a continuous 3-year period, the BAAQMD granted attainment status in 1995 for CO.

## 10.2.2 Meteorology and Climate

### Climate

The Tri-Valley region encompasses the eastern extent of the San Francisco Bay Area covering San Ramon, Amador, and Livermore Valleys within Alameda and Contra Costa Counties. This region has a Mediterranean type climate with dry summers and mild wet winters. Two factors are responsible for this climate. In summer, the strong Pacific High over California steers storms to the north of the region bringing generally clear skies and dry conditions. When this semi-permanent ridge weakens in winter, storms of greater intensity are able to sweep through the area bringing high winds, cool temperatures, and precipitation. Extreme temperature values range from lows near 18 degrees (Fahrenheit) to

highs above 110 degrees during cold snaps and heat waves, though average highs range from the low 90s in summer, to average lows in the mid to upper 30s in winter.

### Temperatures

Temperatures were obtained from the National Climatic Data Center (NCDC, 1999) monitoring site located in Livermore. The site is located in the center of the project area and has a period of record from 1931 to 1998, although site averages and ranges were obtained using the 30-year period of 1961 through 1990. Because of the site's central location, it should be representative of the average conditions for temperature and precipitation that the transmission line would encounter. These data show July as the warmest month, with an average maximum temperature of 90 degrees and average minimum temperature of 53 degrees. During an average July, the maximum temperature will exceed 90 degrees on 16 of 31 days. The highest recorded temperature at the Livermore monitoring site is 115 degrees, which occurred on September 3, 1950. Mean and extreme temperature statistics for Livermore are presented in Table 10-4.

Month	Avg. Daily Maximum	Avg. Daily Minimum	Monthly Mean	Mean # of Days Max>=90	Mean # of Days Min<=32
January	56.7	35.5	46.1	0	10.7
February	61.8	39.0	50.4	0	5.9
March	64.9	40.5	52.7	0	2.4
April	70.7	42.5	56.6	0.4	0.6
May	77.0	46.8	61.9	3.5	0.0
June	83.9	51.3	67.7	8.1	0.0
July	89.8	53.4	71.6	16.1	0.0
August	89.2	53.5	71.4	15.2	0.0
September	86.0	52.0	69.0	11.3	0.0
October	78.1	47.2	62.7	3.6	0.2
November	65.1	40.9	53.0	0	3.6
December	56.6	36.0	46.3	0	9.9
Annual	73.3	44.9	59.1	58.3	33.2

TABLE 10-4

Source: NCDC Livermore, CA 1961-1998.

Monthly Mean and Extreme Temperatures Statistics

December is the coldest month of the year, with an average maximum of 56 degrees, and average minimum of 36 degrees. The lowest recorded temperature at the Livermore site is 18 degrees which occurred on January 5, 1961; December 9, 1972; and December 22, 1990. Minimum temperatures drop to freezing or below an average of 33 days from November through March.

### Precipitation

The data indicate a mean annual precipitation of 14.2 inches for the 30-year period between 1961 and 1990. During this period, maximum and minimum annual precipitation ranged from 32.4 inches to 6.4 inches. Monthly totals and other precipitation statistics are presented in Table 10-5. Over 90 percent of the annual rainfall is recorded between the months of October and April. During most months of the summer season, there is no measurable precipitation. The maximum 24-hour rainfall ever recorded is 3.45 inches.

Month	Normal (inches)	Maximum (inches)	Minimum (inches)	24-Hour Maximum (inches)
January	2.71	6.28	0.30	3.45
February	2.28	7.11	0.08	2.93
March	2.24	6.14	0.14	2.00
April	1.12	4.65	0.16	1.80
Мау	0.26	1.78	0.00	0.82
June	0.08	0.48	0.00	0.60
July	0.04	0.70	0.00	0.67
August	0.08	0.91	0.00	0.50
September	0.24	1.48	0.00	1.53
October	0.86	3.64	0.00	2.17
November	2.16	5.44	0.08	3.05
December	2.14	5.27	0.10	3.26
Annual	14.21	32.37	6.40	3.45

#### TABLE 10-5

Monthly Mean and Extreme Precipitation Statistics

Source: NCDC Livermore, CA 1961-1990.

Thunderstorms are infrequent, occurring an average of only 6 times per year, generally in the spring or fall seasons. Tornadoes generated by these thunderstorms are very rare, only 5 were reported in Alameda and Contra Costa Counties from 1950 through 1995. All were estimated to be F0 on the Fujita Scale. Snowfall is also very rare on the floor of the Tri-Valley area; an average of less than 1 day per year is recorded.

### Winds

The nearest long-term wind measurements were made by the California Air Resources Board (CARB, 1984) at Livermore, where the predominant wind direction is from the southwest. During the winter season, however, northeast winds are predominant. The mean annual wind speed is 5.1 mph. Table 10-6 lists seasonally predominant and secondary wind directions, and corresponding mean wind speeds. The transmission line project will pass through the Altamont Pass wind energy generation area where some short-term wind measurements are available. These data show mean monthly wind speeds up to 34 mph in the summer. The high sustained winds in this area occur during summer (June, July, and August) usually between 6:00 p.m. and midnight when there is the greatest temperature difference between the coast and valley (CEC, 1985). These winds are localized within the Altamont Pass area, within 17,000 acres just west of the Tesla Substation.

The highest peak wind speeds are usually associated with winter storms. The highest recorded peak gust at Altamont Pass is 79 mph (Holets, 1990), which occurred during a December storm in 1987.

Season	Prevailing Direction	Percent <sup>1</sup>	Average Speed <sup>2</sup> (mph)	Secondary Direction	Percent <sup>1</sup>	Average Speed <sup>2</sup> (mph)
Winter	NE	23.5	3.1	SW	15.3	4.0
Spring	SW	27.4	5.8	NE	9.4	3.3
Summer	W	41.2	6.3	S	9.8	5.8
Fall	SW	21.4	4.4	NE	15.7	2.6
Annual	SW	24.0	5.1	NE	12.5	2.9

**TABLE 10-6** Seasonal Wind Speed and Direction Statistics

Source: Livermore, CA 1970-1980 (CARB, 1984). <sup>1</sup> Percent of time wind comes from this direction.

<sup>2</sup> Average speed at which wind comes from this direction.

# **10.3 Potential Impacts**

## 10.3.1 Significance Criteria

Standards of significance were derived from Appendix G of the revised CEQA Guidelines. Impacts from air quality would be considered significant if they were to:

- Violate any AAQS •
- Contribute substantially to an existing or project-related air quality violation
- Expose sensitive receptors to a substantial pollutant concentration

Sensitive air quality receptors are defined as facilities or land uses that include people who are particularly susceptible to the effects of air pollution, including children, the elderly, and people with illnesses. Schools, hospitals, and residential areas are all examples of sensitive receptors.

## 10.3.2 Construction

PM<sub>10</sub> is the primary air pollutant source from construction activities. In addition to PM<sub>10</sub>, there are pollutants associated with construction equipment usage, and with vehicular emissions from transporting workers, equipment, and supplies.

The "worst case" scenario for total project emissions during the construction phase would be as follows:

•	PM <sub>10</sub>	0.96 tons per day
•	Reactive Organic Gas (ROG)	0.05 tons per day
•	СО	0.93 tons per day
•	$NO_2$	0.48 tons per day
•	SO <sub>2</sub>	0.05 tons per day

The cumulative impact of the construction emissions presented in Table 10-7 was compared to the BAAQMD CEQA Guidelines, "Thresholds of Significance" (BAAQMD, 1996), and was determined to be less than significant. An emissions inventory of the Bay Area Air Basin by source category is presented in Table 10-8. This table also contains the net percent (unabated) contribution of the project. Even when assuming "worst case" conditions, these contributions are very small when compared to the total air quality in the Bay Area, less than 0.4 percent for all categories. Furthermore, the BAAQMD CEQA Guidelines, Section 2.3, state that "if all the control measures indicated in Table 2 of the Guidelines, as appropriate (depending on the size of the project area), will be implemented, then air pollutant emissions from construction activities would be deemed a less than significant impact."

Although the air quality impacts from construction would be less than significant, implementation of Mitigation Measures 10.1, 10.2, and 10.3 will further reduce temporary air emissions from project construction.

Construction Emissions Estimates

		E	missions (Pou	nds/Day)	
Activity and Equipment	ROG	СО	NO <sub>2</sub>	SO <sub>2</sub>	<b>PM</b> <sub>10</sub>
Pole Line Activity					
General Construction					
Rigging Truck (2)	0.59	9.24	1.08	0.00	0.00
Mechanic Truck (1)	0.14	1.69	0.17	0.00	0.00
Structure Foundation Excavation					
3/4-Ton Pick-up Truck (8)	2.37	36.94	4.32	0.00	0.00
1-Ton Truck (1)	1.52	14.32	33.36	3.63	2.05
Truck Mounted Digger (2)	2.40	10.56	27.04	2.29	2.22
Crawler Backhoe (2)	3.04	57.44	20.32	5.57	2.50
Concrete Truck (2)	3.04	28.64	66.72	7.26	4.10
Structure Delivery and Setup					
3/4-Ton Pick-up Truck (4)	1.18	18.47	2.16	0.00	0.00
Boom Truck (2)	8.96	272.00	6.74	0.37	0.90
Mobile Crane (2)	8.96	272.00	6.74	0.21	0.90
Wire Installation					
1-Ton Truck (2)	3.04	28.64	66.72	7.26	4.10
3/4-Ton Pick-up Truck (10)	2.96	46.18	5.40	0.00	0.00
Cleanup and Landscaping					
2-Ton Flat Bed Truck (2)	3.04	28.64	66.72	7.26	4.10
3/4-Ton Pick-up Truck (8)	2.37	36.94	4.32	0.00	0.00
1-Ton Truck (2)	3.04	28.64	66.72	7.26	4.10
D-3 Bulldozer	1.52	14.32	33.36	2.78	1.32
Concrete Truck (2)	3.04	28.64	66.72	7.26	4.10
Fugitive Dust					
Grading and Backfill	0.00	0.00	0.00	0.00	1709.01
Pole Activity Totals (pounds/day)	51.21	933.30	478.61	51.15	1789.40
Pole Activity Totals (tons/day)	0.026	0.467	0.239	0.026	0.89

Construction Emissions Estimates

	Emissions (Pounds/Day)					
Activity and Equipment	ROG	СО	NO <sub>2</sub>	SO <sub>2</sub>	PM <sub>10</sub>	
Substation Construction						
General Construction						
Rigging Truck (2)	0.59	9.24	1.08	0.00	0.00	
Mechanic Truck (1)	0.14	1.69	0.17	0.00	0.00	
Structure Foundation Excavation						
3/4-Ton Pick-up Truck (8)	2.37	36.94	4.32	0.00	0.00	
1-Ton Truck (1)	1.52	14.32	33.36	3.63	2.05	
Truck Mounted Digger (2)	2.40	10.56	27.04	2.29	2.22	
Crawler Backhoe (2)	3.04	57.44	20.32	5.57	2.50	
Concrete Truck (2)	3.04	28.64	66.72	7.26	4.10	
Structure Delivery and Setup						
3/4-Ton Pick-up Truck (4)	1.18	18.47	2.16	0.00	0.00	
Boom Truck (2)	8.96	272.00	6.74	0.37	0.90	
Mobile Crane (2)	8.96	272.00	6.74	0.21	0.90	
Wire Installation						
1-Ton Truck (2)	3.04	28.64	66.72	7.26	4.10	
3/4-Ton Pick-up Truck (10)	2.96	46.18	5.40	0.00	0.00	
Cleanup and Landscaping						
2-Ton Flat Bed Truck (2)	3.04	28.64	66.72	7.26	4.10	
3/4-Ton Pick-up Truck (8)	2.37	36.94	4.32	0.00	0.00	
1-Ton Truck (2)	3.04	28.64	66.72	7.26	4.10	
D-3 Bulldozer	1.52	14.32	33.36	2.78	1.32	
Concrete Truck (2)	3.04	28.64	66.72	7.26	4.10	
Fugitive Dust						
Grading and Backfill	0.00	0.00	0.00	0.00	1290.3	
Substation Construction Total (pounds/day)	51.21	933.30	478.61	51.15	1320.7	
Substation Construction Total (tons/day)	0.026	0.467	0.239	0.026	0.66	
Project Total Emissions (tons/day)	0.052	0.934	0.478	0.052	0.96	

Source: EPA, 1995.

1991 Bay Area Annual Average Emissions by Source Category

	Daily Emissions (Tons/Day)						
Source Category	<b>PM</b> <sub>10</sub>	ROG	NO <sub>2</sub>	SO <sub>2</sub>	СО		
Industrial Processes	197.1	59.0	52.7	55.3	35.5		
Organic Compound Evaporation	0.0	117.7					
Combustion	35.0	21.1	105.5	14.8	216.0		
Mobile Sources	58.9	264.2	392.3	51.0	2127.8		
Miscellaneous	753.1	356.6	0.7		50.4		
Area Totals	1044.1	818.6	551.2	121.1	2429.7		
Project Construction Contribution	0.821	0.052	0.478	0.052	0.934		
Percent Net Contribution	0.079	0.006	0.090	0.043	0.038		

Source: BAAQMD (1993).

## 10.3.3 Operation

Once constructed and operating, the project will not create any air emissions. Vehicular emissions associated with maintenance and repair of the project components would be the only sources of emissions during the operational phase. As shown in Table 10-9, using an estimated total of 1,000 vehicle miles per month (both light-duty and heavy-duty trucks) for maintenance and repairs, the total emissions during the operational phase will be considerably less than the BAAQMD thresholds of significant contribution of 80 pounds/ day maximum for ROG, NO<sub>x</sub>, and PM<sub>10</sub> (BAAQMD, 1996). Potential impacts to air quality are considered less than significant and therefore, mitigation measures are not required.

#### TABLE 10-9

Operations Emissions Estimates

	Emissions (Pounds/Day)						
Activity and Equipment	ROG	СО	NO <sub>2</sub>	SO <sub>2</sub>	<b>PM</b> <sub>10</sub>		
Light Duty Truck (800 miles/month)	0.08	1.64	0.42	0.00	0.00		
Heavy Duty Truck (200 miles/month)	0.04	0.62	0.08	0.28	0.16		
Substation and Power Line Operations Total (pounds/day)	0.12	2.26	0.50	0.28	0.16		
Substation and Power Line Operations Total (tons/day)	0.00006	0.00114	0.00026	0.00014	0.0000		

Source: Environmental Protection Agency, 1985a and b.

# **10.4 Mitigation Measures**

## 10.4.1 Construction

To further reduce the construction-related impacts on air quality, the following mitigation measures are proposed.

Mitigation 10.1. All personnel working on the project will be trained prior to starting construction on methods for minimizing air quality impacts during construction.

Mitigation 10.2. Although the release of  $PM_{10}$  associated with project construction is insignificant relative to ambient  $PM_{10}$  levels, the following mitigation measures will be implemented to minimize  $PM_{10}$  emissions.

- Water all active construction areas, access roads, and staging areas at least twice daily.
- Cover all trucks hauling soil and other loose material, or require at least 2 feet of freeboard.
- Construction vehicles will use paved roads to access the construction site when possible.
- Limit vehicle speeds to 15 mph on unpaved roads.
- Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets.
- Apply soil stabilizers to inactive construction areas on an as-needed basis.
- Enclose, cover, water twice daily, or add soil binders to exposed stockpiles of soil and other excavated materials.
- Replant vegetation in disturbed areas following the completion of construction.

Mitigation 10.3. Although short-term construction vehicle emissions will be minimal relative to ambient emission levels, the following mitigation measures will be implemented:

- Construction workers will carpool when possible.
- Vehicle idling time will be minimized.

According to the BAAQMD CEQA Guidelines, implementation of the above mitigation measures during construction will further reduce air quality impacts associated with  $PM_{10}$  emissions to less than significant levels.

## 10.4.2 Operation

Because air quality impacts during operations will be less than significant, mitigation measures are not required.

# 10.5 References

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