

1 **3.3 AIR QUALITY**

<b>AIR QUALITY</b> - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2 **3.3.1 Environmental Setting**

3 3.3.1.1 Local Climate and Meteorology

4 Air pollution transport by wind is significant in the Bay Area Air Quality Management  
 5 District (BAAQMD). Swept by sea breezes, much of the Bay Area enjoys good air  
 6 quality; however, these winds often blow San Francisco Bay Area Air Basin (SFBAAB)  
 7 pollution into the Central Valley, and interior valleys, such as Livermore and Santa  
 8 Clara, experience ozone standard violations in summer as winds turn south. Bay Area  
 9 air pollutants are also transported through the Carquinez Strait into the Sacramento  
 10 Valley Air Basin (SVAB) and San Joaquin Valley Air Basin (SJVAB), and through the  
 11 Altamont Pass into the SJVAB. This contributes to poor air quality throughout Northern  
 12 and interior Central California (CARB 2015).

13 The climate of Contra Costa County varies greatly depending on land elevation and  
 14 proximity to the coast. In general, winters are moderately cold with precipitation  
 15 generally falling between October and March. Summers tend to be cooler in areas  
 16 closer to the bay and warmer in the inland parts of the county. Areas that are closer to  
 17 the coast have moderate temperatures year-round with mild, wet, and frostless winters

1 and fog conditions even in the cool summer months. Along the bay shore, the fog and  
2 marine air creates a moderate climate with mild winters and summers. Inland valleys  
3 have less humidity and tend to experience colder winters and hotter summers (Contra  
4 Costa County 2012).

#### 5 3.3.1.2 Criteria Pollutants

6 Criteria air pollutants are those contaminants for which State and Federal ambient air  
7 quality standards have been established for the protection of public health and welfare.  
8 Criteria pollutants include: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>),  
9 sulfur dioxide (SO<sub>2</sub>), particulate matter with a diameter of 10 microns (μ) or less (PM<sub>10</sub>),  
10 and particulate matter with a diameter of 2.5 μ or less (PM<sub>2.5</sub>).

#### 11 **Ozone**

12 O<sub>3</sub> is formed in the atmosphere through a series of complex photochemical reactions  
13 involving NO<sub>x</sub>, reactive organic gases (ROG) (also known as ROCs or reactive organic  
14 compounds), and sunlight occurring over several hours. Since O<sub>3</sub> is not emitted directly  
15 into the atmosphere, but is formed as a result of photochemical reactions, it is classified  
16 as a secondary or regional pollutant. Because these O<sub>3</sub>-forming reactions take time,  
17 peak O<sub>3</sub> levels are often found downwind of major source areas. O<sub>3</sub> is considered a  
18 respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma,  
19 and increase susceptibility to respiratory infections. Children and those with existing  
20 respiratory diseases are at greatest risk from exposure to O<sub>3</sub>.

#### 21 **Carbon Monoxide**

22 CO is primarily formed through the incomplete combustion of organic fuels. Higher CO  
23 values are generally measured during winter when dispersion is limited by morning  
24 surface inversions. Seasonal and diurnal variations in meteorological conditions lead to  
25 lower values in summer and in the afternoon. CO is an odorless, colorless gas that  
26 affects red blood cells in the body by binding to hemoglobin and reducing the amount of  
27 oxygen that can be carried to the body's organs and tissues. CO can cause health  
28 effects to those with cardiovascular disease and affect mental alertness and vision.

#### 29 **Nitric Oxide**

30 Nitric oxide (NO) is a colorless gas formed during combustion processes which rapidly  
31 oxidize to form nitrogen dioxide (NO<sub>2</sub>), a brownish gas. The highest NO<sub>2</sub> values are  
32 generally measured in urbanized areas with heavy traffic. Exposure to NO<sub>2</sub> may  
33 increase the potential for respiratory infections in children and cause difficulty in  
34 breathing even among healthy persons and especially among asthmatics.

**1 Sulfur Dioxide**

2 SO<sub>2</sub> is a colorless, reactive gas that is produced from the burning of sulfur-containing  
 3 fuels such as coal and oil, and by other industrial processes. Generally, the highest  
 4 concentrations of SO<sub>2</sub> are found near large industrial sources. SO<sub>2</sub> is a respiratory  
 5 irritant that can cause narrowing of the airways, leading to wheezing and shortness of  
 6 breath. Long-term exposure to SO<sub>2</sub> can cause respiratory illness and aggravate existing  
 7 cardiovascular disease.

**8 Particulate Matter**

9 Ambient air quality standards are set for PM<sub>10</sub> and PM<sub>2.5</sub>. Both consist of different types  
 10 of particles suspended in the air, such as: metal, soot, smoke, dust, and fine mineral  
 11 particles. Depending on the source of particulates, toxicity and chemical activity can  
 12 vary. Particulate matter is a health concern because when inhaled it can cause  
 13 permanent damage to the lungs. The primary source of PM<sub>10</sub> emissions appears to be  
 14 soil via roads, construction, agriculture, and natural windblown dust. Other sources of  
 15 PM<sub>10</sub> include sea salt, particulate matter released during combustion processes, such  
 16 as those in gasoline or diesel vehicles, and wood burning. Fugitive emissions from  
 17 construction sites, wood stoves, fireplaces and diesel truck exhaust are primary sources  
 18 of PM<sub>2.5</sub>. Both sizes of particulates can be dangerous when inhaled, however PM<sub>2.5</sub>  
 19 tends to be more damaging because it remains in the lungs once inhaled.

**20 3.3.2 Regulatory Setting**

21 3.3.2.1 Federal and State

22 Federal and State laws and regulations pertaining to this issue area and relevant to the  
 23 Project are identified in Table 3.3-1.

**Table 3.3-1. Laws, Regulations, and Policies (Air Quality)**

<b>U.S.</b>	Federal Clean Air Act (FCAA) (42 USC 7401 et seq.)	<p>The FCAA requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. National standards are established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb). In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO<sub>2</sub>) is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate GHG emissions. Pursuant to the 1990 FCAA Amendments, USEPA classifies air basins (or portions thereof) as in “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the NAAQS are achieved. The classification is determined by comparing monitoring data with State and Federal standards.</p> <ul style="list-style-type: none"> <li>• An area is classified as in “attainment” for a pollutant if the pollutant concentration is lower than the standard.</li> <li>• An area is classified as in “nonattainment” for a pollutant if the pollutant concentration exceeds the standard.</li> </ul>
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**Table 3.3-1. Laws, Regulations, and Policies (Air Quality)**

		<ul style="list-style-type: none"> <li>An area is designated “unclassified” for a pollutant if there are not enough data available for comparisons.</li> </ul>
CA	California Clean Air Act of 1988 (CCAA) (Assembly Bill [AB] 2595)	The CCAA requires all air districts in the State to endeavor to achieve and maintain State ambient air quality standards for O <sub>3</sub> , CO, SO <sub>2</sub> , NO <sub>2</sub> , and PM; attainment plans for areas that did not demonstrate attainment of State standards until after 1997 must specify emission reduction strategies and meet milestones to implement emission controls and achieve more healthful air quality. The 1992 CCAA Amendments divide O <sub>3</sub> nonattainment areas into four categories of pollutant levels (moderate, serious, severe, and extreme) to which progressively more stringent requirements apply. State ambient air standards are generally stricter than national standards for the same pollutants; California also has standards for sulfates, hydrogen sulfide (H <sub>2</sub> S), vinyl chloride, and visibility-reducing particles.
CA	Other	<p>Under California’s Diesel Fuel Regulations, diesel fuel used in motor vehicles, except harbor craft, has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006, and harbor craft were included starting in 2009.</p> <p>CARB’s Heavy Duty Diesel Truck Idling Rule (Cal. Code Regs., tit. 13, § 2485) prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time (except while queuing, provided the queue is located beyond 100 feet from any homes or schools).</p> <p>The Statewide Portable Equipment Registration Program (PERP) regulates portable engines/engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts.</p>

1 Air pollution control is administered on three governmental levels. The U.S.  
 2 Environmental Protection Agency (USEPA) has jurisdiction under the Federal Clean Air  
 3 Act (FCAA). The California Air Resources Board (CARB) has jurisdiction under the  
 4 California Health and Safety Code and California Clean Air Act (CCAA). For the  
 5 purposes of this assessment, the Project site is located in both the SFBAAB, within the  
 6 jurisdiction of the BAAQMD, and the SVAB, within the jurisdiction of the Sacramento  
 7 Metropolitan Air Quality Management District (SMAQMD). The USEPA and CARB  
 8 classify an area as attainment, unclassified, or nonattainment, depending on whether or  
 9 not the monitored ambient air quality data show compliance, insufficient data are  
 10 available, or non-compliance with the ambient air quality standards, respectively.

11 **Air Quality Standards**

12 Air quality standards are specific concentrations of pollutants that are used as  
 13 thresholds to protect public health and the public welfare. The USEPA has developed  
 14 two sets of standards; one to provide an adequate margin of safety to protect human  
 15 health, and the second to protect the public welfare from any known or anticipated  
 16 adverse effects. At this time, SO<sub>2</sub> is the only pollutant for which the two standards differ.  
 17 The CARB has developed air quality standards for California, which are generally lower  
 18 in concentration than Federal standards. California standards exist for O<sub>3</sub>, CO,  
 19 suspended PM<sub>10</sub>, visibility, sulfates, lead, hydrogen sulfide, and vinyl chloride. The  
 20 Federal O<sub>3</sub> standard is based on an 8-hour averaging period (vs. 1-hour), recognizing

- 1 that prolonged exposure is more damaging. The Federal PM standard is based on finer
- 2 2.5  $\mu$  and smaller particles (vs. 10  $\mu$  and smaller), recognizing that finer particles may
- 3 have a higher residence time in the lungs and cause greater respiratory illness. Table
- 4 3.3-2 lists applicable ambient air quality standards at the Project site.

**Table 3.3-2. Ambient Air Quality Standards (State and Federal)**

Pollutant		Averaging Time	California Standard	Federal Standard
Ozone (O <sub>3</sub> )		1-Hour	0.09 ppm	--
		8-Hour	0.070 ppm	0.075 ppm
Carbon Monoxide (CO)		8-Hour	9.0 ppm	9 ppm
		1-Hour	20 ppm	35 ppm
Nitrogen Dioxide (NO <sub>2</sub> )		Annual Arithmetic Mean	0.030 ppm	0.053 ppm
		1-Hour	0.18 ppm	--
Sulfur Dioxide (SO <sub>2</sub> )		Annual Arithmetic Mean	--	0.030 ppm
		24-Hour	0.04 ppm	0.14 ppm
		3-Hour	--	0.5 ppm (secondary)
		1-Hour	0.25 ppm	--
Respirable Particulate Matter	PM <sub>10</sub>	Annual Geometric Mean	20 $\mu\text{g}/\text{m}^3$	--
		24-Hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$
Fine Particulate Matter	PM <sub>2.5</sub>	Annual Geometric Mean	12 $\mu\text{g}/\text{m}^3$	15.0 $\mu\text{g}/\text{m}^3$
		24-Hour	--	35 $\mu\text{g}/\text{m}^3$
Hydrogen Sulfide (H <sub>2</sub> S)		1-Hour	0.03 ppm	--
Vinyl Chloride		24 Hour	0.01 ppm	--
Sulfates		24 Hour	25 $\mu\text{g}/\text{m}^3$	--
Lead		--	30 day average: 25 $\mu\text{g}/\text{m}^3$	Rolling 3-month Average: 0.15 $\mu\text{g}/\text{m}^3$ Calendar quarter: 1.5 $\mu\text{g}/\text{m}^3$
Visibility Reducing Particles		8-Hour	Extinction coefficient of 0.23 per km - visibility of ten mile or more due to particles when relative humidity is less than 70 percent.	--

Source: CARB 2013

## 5 Air Toxic Health Risks

- 6 Combustion of diesel fuel in internal combustion engines produces exhaust containing
- 7 several compounds identified as hazardous air pollutants by the USEPA and as toxic air
- 8 contaminants (TACs) by the CARB. Particulate matter from diesel exhaust has recently
- 9 been identified as a TAC. In 2000, the CARB developed a Risk Reduction Plan (CARB
- 10 2000) to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles
- 11 to establish new emission standards, certification programs, and engine retrofit

1 programs to control exhaust emissions from diesel engines and vehicles. The CARB  
2 has also passed fuel standards that would enable diesel engines to incorporate new  
3 advanced technologies to meet dramatically lower emission levels. The new sulfur  
4 standard was phased in starting in June 2006, and aligns California diesel fuel sulfur  
5 standards with Federal diesel sulfur standards, which require a sulfur limit of 15 parts  
6 per million (ppm). California's rule would apply to fuel sold for both on-road and off-road  
7 vehicles (excluding locomotives and marine vessels).

#### 8 3.3.2.2 Local

9 The Project is located within both Sacramento and Contra Costa Counties, as well as  
10 within the City. Local policies within these three jurisdictions pertaining to air quality are  
11 included below.

#### 12 **Sacramento County**

13 Within the Sacramento County General Plan - Air Quality Element (2011) the following  
14 policies may be implemented as appropriate:

- 15 • Policy AQ-11: Encourage contractors operating in the county to procure and to  
16 operate low-emission vehicles, and to seek low emission fleet status for their off-  
17 road equipment.
- 18 • Policy AQ-16: Prohibit the idling of on-and off-road engines when the vehicle is  
19 not moving or when the off-road equipment is not performing work for a period of  
20 time greater than five minutes in any one hour period.
- 21 • Policy AQ-21: Support SMAQMD's particulate matter control measures for  
22 residential wood burning and fugitive dust.

#### 23 **Contra Costa County**

24 The Conservation Element of the Contra Costa County General Plan 2005-2020  
25 (Contra Costa County 2010) includes goals and policies that aim to improve local and  
26 regional air quality throughout the County. The following air resources policies may be  
27 applicable to the Project:

- 28 • Policy 8-103: When there is a finding that a proposed project might significantly  
29 affect air quality, appropriate mitigation measures shall be imposed.
- 30 • Policy 8-104: Proposed projects shall be reviewed for their potential to generate  
31 hazardous air pollutants.

1 **City of Oakley**

2 The City's 2020 General Plan identifies the following air quality goals and policies that  
3 may be applicable to the Project site:

- 4 • Goal 6.2: Maintain or improve air quality in the City of Oakley.
- 5 • Policy 6.2.1: Support the principles of reducing air pollutants through land use,  
6 transportation, and energy use planning.

7 **AQMDs**

8 Local AQMDs share responsibility with the CARB for ensuring that all ambient air quality  
9 standards are attained within their respective counties. The AQMDs have jurisdiction  
10 under the California Health and Safety Code to develop emission standards (rules)  
11 within their respective counties and/or air basins, issue air pollution permits, and require  
12 emission controls for stationary sources in their district. The AQMDs are also  
13 responsible for the attainment of air quality standards in their district. The USEPA and  
14 CARB classify an air basin as attainment, unclassified, or nonattainment, depending on  
15 the results of the monitored ambient air quality. The Project site is located in both the  
16 SFBAAB and the SVAB, overseen respectively by the BAAQMD and the SMAQMD.

17 Sacramento County (within the SVAB) and Contra Costa County (within the SFBAAB)  
18 are designated as nonattainment for the Federal and State O<sub>3</sub> standards and the State  
19 PM<sub>10</sub> standard. Contra Costa County is also designated as nonattainment for the State  
20 PM<sub>2.5</sub> standard.

21 Both the BAAQMD and SMAQMD have provided guidance for evaluating potential air  
22 quality impacts of projects. These guidance documents are developed so that projects  
23 do not exceed any threshold of significance in the guidance, and thereby would be in  
24 conformity with the BAAQMD and SMAQMD. The FCAA and the CCAA require plans to  
25 be developed for areas designated as nonattainment (with the exception of areas  
26 designated as nonattainment for the State PM<sub>10</sub> standard). As such, the BAAQMD  
27 adopted the 2010 Bay Area Clean Air Plan, which replaced the previous Bay Area 2005  
28 Ozone Strategy. The BAAQMD's 2010 adopted thresholds were challenged in a lawsuit.  
29 As a result, the court's order permits the BAAQMD to develop and disseminate these  
30 CEQA Guidelines, as long as they do not implement the thresholds of significance. The  
31 SMAQMD prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) to  
32 mainly address Sacramento County's nonattainment status for ozone (O<sub>3</sub>) and CO, and  
33 although not required, PM<sub>10</sub>.

34 Table 3.3-3 identifies air quality thresholds as applicable to the Project based on the  
35 BAAQMD's *CEQA Air Quality Guidelines (BAAQMD, 2012)*.

**Table 3.3-3 Criteria Air Pollutants Significance Thresholds**

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub>	82 (exhaust)	82	15
PM <sub>2.5</sub>	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Notes: ROG = reactive organic gases NO <sub>x</sub> = oxides of nitrogen PM <sub>10</sub> = particulate matter with aerodynamic diameter less than 10 microns PM <sub>2.5</sub> = particulate matter with aerodynamic diameter less than 2.5 microns			
<b>Source:</b> BAAQMD CEQA Air Quality Guidelines, 2012			

1 **3.3.3 Impact Analysis**

2 ***a) Conflict with or obstruct implementation of the applicable air quality plan?***

3 **No Impact.** The development of the Bay Area 2010 Clean Air Plan relied on projections  
 4 of population and employment forecasts made by the Association of Bay Area  
 5 Governments (ABAG) to inform the control strategies for attaining Federal and State air  
 6 quality standards. The ABAG projections were in turn based on land use projections  
 7 made by local jurisdictions (e.g., the General Plan process of cities and counties within  
 8 the region). Conflicts with the air quality plan would arise if the Project's activities  
 9 caused those projections to be exceeded by creating a substantial increase in  
 10 employment or population. Large population or employment increases could affect  
 11 transportation control strategies, which are among the most important in the air quality  
 12 plan, since transportation is a major contributor to PM<sub>2.5</sub>, PM<sub>10</sub>, and O<sub>3</sub> for which the air  
 13 basin is not in attainment. Because the Project does not propose activities that would  
 14 change population or employment levels within the air basin, the Project would not  
 15 conflict or obstruct implementation of the applicable air quality plan. The Project would  
 16 implement measures to control air emissions as described in the following sections.

17 ***b) Violate any air quality standard or contribute substantially to an existing or***  
 18 ***projected air quality violation?***

19 **Less than Significant with Mitigation.** Project activities that would emit air pollutants  
 20 include use of onshore heavy equipment, semi-trailer end dump trucks, cement trucks,  
 21 marine vessels, equipment to remove the pipelines and north landing valve pit, and

1 vehicles to transport people and materials to and from the site, place backfill, and  
 2 restore the site. However, construction activities would be of short duration, lasting a  
 3 few days to a few weeks during each decommissioning phase. The Project would not  
 4 create a new permanent stationary or non-stationary source of air emissions as defined  
 5 by BAAQMD guidelines. As such, the Project is not subject to the thresholds of  
 6 significance that apply to operational impacts created by new permanent sources, and  
 7 is, therefore, evaluated in the context of construction-related impacts.

8 Table 3.3-4 shows the project emissions, calculated using California Emissions  
 9 Estimator Model (CalEEMod) air emissions software and Emfac2007 V2.3 (see  
 10 Appendix B for a copy of the Air Quality Spreadsheets supporting this analysis).

**Table 3.3-4. Estimated Criteria Pollutant by Phase - Total Project Emission**

<b>EMISSIONS SUMMARY</b>		<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Pre-Survey</b>	Pounds/Day	0.50	12.63	0.55	0.52
	Total Pounds/ Phase	0.50	12.63	0.55	0.52
<b>North Landing</b>	Pounds/Day	4.31	22.26	1.38	1.31
	Total Pounds/ Phase	31.76	146.79	8.49	8.07
<b>South Landing</b>	Pounds/Day	0.96	8.92	0.28	0.27
	Total Pounds/ Phase	6.63	62.33	1.80	1.71
<b>River Crossing Decommissioning</b>	Pounds/Day	7.04	83.48	3.61	3.43
	Total Pounds/ Phase	215.58	2,494.00	107.71	102.33
<b>Post-Survey</b>	Pounds/Day	0.50	12.63	0.55	0.52
	Total Pounds/ Phase	0.50	12.63	0.55	0.52
<b>Total Construction</b>	<b>Pounds/Project</b>	<b>254.98</b>	<b>2,728.38</b>	<b>119.11</b>	<b>113.15</b>
<b>Average Daily Construction Emissions (lbs./day): 60 days</b>					
<b>Average Total Construction</b>		4.25	45.47	1.99	1.89
<b>Worst Case Day</b>		7.04	83.48	3.61	3.43
<b>BAAQMD Daily Threshold</b>		<b>54</b>	<b>54</b>	<b>82</b>	<b>54</b>
<b>Exceeds Threshold Over Average Construction Days</b>		<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Exceeds Worst Case Day</b>		<b>No</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
<b>Source:</b> Emission estimates based on project construction phasing, equipment use, debris transport and worker commute provided in the Project Execution Plan. Construction equipment pollutant emission rates provided by CARB's OFFROAD model as included in the CalEEMod emission model; CARB's <i>Emissions Estimation Methodology for Commercial Harbor Craft Operating in California</i> (2007); and motor vehicle pollutant emission rates provided by CARB's EMFAC2007 V2.3 model.					

11 As shown in Table 3.3-4, although the Project would exceed the BAAQMD threshold for  
 12 a worst-case day for NO<sub>x</sub>; the proposed activities would not exceed thresholds based on  
 13 an average of 60 days for the Project duration. As such, the Project would not violate  
 14 any air quality standard or contribute substantially to an existing or projected air quality  
 15 violation. Additionally, **MM AQ-1: Air Pollutant Control Measures** would require the  
 16 use of marine vessels and equipment with Tier II air quality requirements (or better) and  
 17 other measures to reduce impacts due to Project emissions to less than significant.

1       **MM AQ-1: Air Pollutant Control Measures.** Pacific Gas and Electric shall include  
2       emission reduction measures in the Project plans and specifications that  
3       reduce the emission of criteria air pollutants. These shall include:

- 4       • Harborcraft such as derricks, barges and tug boats shall meet the most  
5       stringent U.S. Environmental Protection Agency emission standards in  
6       place at the time of bid (Tier II for marine engines and non-road engines  
7       over 750 horsepower (hp), Tier III for all other engines);
- 8       • Portable equipment with engines 50 hp and over shall be permitted  
9       through the California Air Resources Board's Portable Equipment  
10      Registration Program;
- 11      • Diesel oxidation catalysts and/or catalyzed diesel particulate traps shall be  
12      used;
- 13      • High-pressure fuel injectors on diesel-powered equipment shall be used;  
14      and
- 15      • Equipment shall be maintained according to manufacturer specifications.

16      BAAQMD (2012) recommends that a project implement certain basic construction  
17      control measures for sites of less than 4 acres and sites that are not expected to be  
18      particularly dusty or located near sensitive receptors - to the extent applicable and  
19      needed. The onshore work areas include the northern and southern landing work sites.  
20      The north landing work site includes the area on and behind the Sherman Island levee,  
21      centered on the subject pipeline alignments with an overall disturbed area of  
22      approximately 12,200 square feet or 0.28 acre. With the exception of the marine safety  
23      sign removal on the south shoreline, there is no disturbed area at the southern site  
24      because no excavation would be required. The disturbed area created by the marine  
25      safety sign removal will be minimal, approximately 27 square feet. Due to the limited  
26      amount of anticipated disturbance area and the low propensity for dust, the Project was  
27      evaluated under the BAAQMD control measures for applicability.

28      Most basic measures recommended by the BAAQMD are unlikely to be needed, such  
29      as applying water to construction areas or sweeping public streets, given the nature of  
30      the work, its location on the river, and the small size of the work area subject to ground  
31      disturbance. However, **MM AQ-2: Dust Control Measures** is provided to further reduce  
32      potential impacts to air quality.

33      **MM AQ-2: Dust Control Measures.** Pacific Gas and Electric shall implement the  
34      Bay Area Air Quality Management District's "basic measures" for dust control  
35      at construction sites, as needed, during soil excavation. The basic measures  
36      would include the following:

- 37      • Water all active construction areas at least twice daily.
- 38      • Cover all trucks hauling soil, sand, and other loose materials or require all  
39      trucks to maintain at least 2 feet of freeboard.

- 1 • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on  
2 all unpaved access roads, parking areas and staging areas at construction  
3 sites.
- 4 • Sweep daily (with water sweepers) all paved access roads, parking areas,  
5 and staging areas at construction sites.
- 6 • Sweep streets daily (with water sweepers) if visible soil material is carried  
7 onto adjacent public streets.
- 8 • Construction equipment (e.g., excavator) shall be inspected before leaving  
9 the site to ensure that soil is not adhering to tires or other vehicle parts.  
10 Vehicles shall be brushed to remove loose dirt, as necessary. Manual  
11 sweeping and housekeeping shall be performed as needed to keep dirt off  
12 of roadways.

13 Based on the results presented in Table 3.3-4 and with implementation of the air  
14 pollutant control measures and BAAQMD's applicable basic dust control measures (**MM**  
15 **AQ-1 and MM AQ-2**) the Project would not violate any air quality standard or contribute  
16 substantially to an existing or projected air quality violation.

17 ***c) Result in a cumulatively considerable net increase of any criteria pollutant for***  
18 ***which the Project region is non-attainment under an applicable Federal or State***  
19 ***ambient air quality standard (including releasing emissions which exceed***  
20 ***quantitative thresholds for ozone precursors)?***

21 **Less than Significant with Mitigation.** The SFBAAB, within which the Project is  
22 located, is not in attainment for PM<sub>2.5</sub> and PM<sub>10</sub> or O<sub>3</sub> under California's air quality  
23 standards. Although there would be emissions of these pollutants from vehicles and  
24 equipment during construction, the emissions would be temporary, of short duration,  
25 and small in quantity given the small numbers of vehicles and construction equipment  
26 needed to complete the work. In addition, Project emissions of particulate matter would  
27 be reduced by **MM AQ-1** and **MM AQ-2**. The Project would not generate long-term  
28 emissions of particulate matter or O<sub>3</sub> and would not cause a cumulatively considerable  
29 increase of particulate matter or O<sub>3</sub>.

30 ***d) Expose sensitive receptors to substantial pollutant concentrations?***

31 **Less than Significant with Mitigation.** The primary work area at the south landing is  
32 approximately 0.25 mile from the residence within Lauritzen Yacht Harbor (the nearest  
33 sensitive receptor). A residential neighborhood is located approximately 1 mile to the  
34 southeast. No schools, hospitals or day care centers are located within 1 mile of the  
35 Project site.

36 A small number of vehicles and equipment would be used at the south landing in order  
37 to plug the three pipelines by pumping approximately 35.3 cubic yards (cy) of cement

1 slurry into each of the three south landing's waterside terrestrial and shoreline  
2 segments. Emissions from the vehicles and equipment would be of short duration and  
3 occur more than 0.25 mile from the nearest school, hospital or neighborhood in which a  
4 substantial number of people reside. The onshore portion of the work described would  
5 occur within 0.25 mile of the residences at the Lauritzen Yacht Harbor. With the  
6 implementation of **MM AQ-2**, and because emissions of dust or vehicle exhaust fumes  
7 associated with the work proposed at the south landing would be of short-term duration,  
8 the Project would not expose sensitive receptors to substantial pollutant concentrations.  
9 A less than significant impact would result.

10 ***e) Create objectionable odors affecting a substantial number of people?***

11 **Less than Significant Impact.** Project construction equipment would generate odors  
12 from the combustion of fuels. However, the presence of an impact from Project odors is  
13 dependent on a number of variables including:

- 14 • Nature of the odor source;
- 15 • Frequency of odor generation (e.g., daily, seasonal, activity-specific);
- 16 • Intensity of the odor (e.g., concentration);
- 17 • Distance of the odor source to sensitive receptors (e.g., miles);
- 18 • Wind direction (e.g., upwind or downwind); and
- 19 • Sensitivity of the receptor.

20 Onshore Project activities would primarily take place in open areas. Impacts associated  
21 with onshore emission odors would be temporary, lasting only as long as necessary to  
22 complete Project activities. Due to the temporary nature of Project activities, as well as  
23 the location away from public areas, onshore impacts would be less than significant.

24 The majority of Project equipment would be located offshore within open deck spaces of  
25 Project vessels and away from sensitive receptors and public areas. Odors associated  
26 with offshore equipment and vessels would be minor, and limited to the immediate  
27 Project area. It is anticipated that odors would dissipate rapidly in the open air. Impacts  
28 associated with offshore impacts would also be less than significant.

29 **3.3.4 Mitigation Summary**

30 Implementation of the following mitigation measures would reduce the potential for  
31 Project-related impacts to air quality to less than significant levels.

- 32 • MM AQ-1: Air Pollutant Control Measures.
- 33 • MM AQ-2: Dust Control Measures.