3.13 Air Quality

This section of the Final Environmental Impact Statement/Report (referred to throughout as the Final EIS/R) describes the existing air quality within the Phase 2 project area and analyzes whether implementation of the project would cause a substantial adverse effect on air. The information presented in this section is based on a review of the existing air quality conditions and other pertinent federal, state and local regulations, as presented in Section 3.13.2, Regulatory Setting. Using this information as context, an analysis of the air-quality-related environmental impacts of the project is presented for each alternative. The program-level mitigation measures described in Chapter 2, Alternatives, would be implemented with the project. Therefore, this section only includes additional, project-level mitigation measures as needed.

3.13.1 Physical Setting

Methodology

The methods of analysis and thresholds of significance are based on the Bay Area Air Quality Management District (BAAQMD) 2011 Air Quality Guidelines (BAAQMD 2010a, 2011).

Regional Setting

The proposed project is in the South Bay (i.e., portions of Alameda, San Mateo, and Santa Clara Counties) within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB also comprises all of Contra Costa, Marin, Napa, and San Francisco Counties, the southeast portion of Sonoma County, and the southwest portion of Solano County. The SFBAAB is generally bounded on the west by the Pacific Ocean, on the north by the Coast Ranges, and on the east and south by the Diablo Range.

The ambient concentrations of air pollutants in the SFBAAB are determined by the amount of emissions released by pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Topography, Meteorology, and Climate

The climate of the SFBAAB is characterized by mild summers and winters, moderate rainfall, daytime onshore breezes, and moderate humidity. Regional flow patterns affect air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions such as moderate winds disperse pollutants and reduce pollutant concentrations. When a warm layer of air traps cooler air close to the ground, an inversion layer is produced, hampering dispersion and trapping air pollutants near the ground. During summer mornings and afternoons, these inversions are present in the South Bay. The extended daylight hours during the summer also provide plentiful sunshine, which provides the energy needed to fuel photochemical reactions between nitrogen oxides (NO_x) and reactive organic gases (ROGs), which result in ozone formation.

Criteria Air Pollutants

Concentrations of ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$, which are particulate matter with diameters of 10 micrometers and 2.5 micrometers, respectively), and lead are used as indicators of ambient air quality conditions. Because these are the most prevalent air pollutants known to be deleterious to human health, they are commonly referred to as "criteria air pollutants."

O_3 is formed from the interaction of ROGs, NO_x, and sunlight. Ground-level O_3 is the primary component of smog. Motor vehicles, industrial activities, and such consumer products as paints, inks, and adhesives emit ROGs. The combustion of gasoline, coal, and oil emits NO_x. O_3 exposure causes eye irritation and damage to lung tissue in humans. O_3 also harms vegetation, reduces crop yields, and accelerates deterioration of paints, finishes, rubber products, plastics, and fabrics.

CO is an odorless, colorless gas formed by the incomplete combustion of fuels. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. Exposure to high CO concentrations may result in headaches, dizziness, fatigue, unconsciousness, and even death.

NO_2 is a reddish-brown gas formed during combustion of fuels. Exposure to high concentrations may increase the risk of acute and chronic respiratory disease. NO_2 can also contribute to the formation of ground-level O_3.

SO_2 is a colorless gas emitted from fossil-fuel combustion sources and other industrial processes. SO_2 is linked to a number of adverse respiratory effects.

PM_{10} is particulate matter that is 10 micrometers or less in diameter. PM_{10} may come from a variety of sources and consists of a wide range of solid and liquid particles, including smoke, dust, aerosols, and metallic oxides. It evades the respiratory system's natural defenses and can lodge deep in the lungs when inhaled, aggravating chronic respiratory diseases. Long-term exposure to PM_{10} at levels exceeding State of California standards can lead to an increase in respiratory and cardiac illness, exacerbation of asthma, and increased death rates.

$PM_{2.5}$, also known as fine particulate matter, is particulate matter that is 2.5 micrometers or less in diameter. $PM_{2.5}$ exposure has been linked to health problems, including asthma, bronchitis, acute and chronic respiratory symptoms (e.g., shortness of breath and painful breathing), and premature death. People with existing heart or lung disease (e.g., asthma, chronic obstructive pulmonary disease, congestive heart disease), children, and the elderly appear to be at greatest risk for these severe health effects. In addition, $PM_{2.5}$ particles are a major source of visibility impairment.

Lead is a toxic metal that can adversely affect the nervous system, immune system, and reproductive and developmental systems. The major sources of lead emissions have historically been from fuels in motor vehicles and industrial sources.

In addition to the criteria pollutants described above, vinyl chloride, hydrogen sulfide (H_2S), sulfates, and visibility reducing particles are considered air pollutants that can adversely affect human health. Vinyl chloride is used to make vinyl products, and high exposure can lead to central nervous system effects and increased cancer risk. H_2S is formed during bacterial decomposition of sulfur-containing organic substances, has a very disagreeable odor, and is highly toxic. Sulfates are the fully oxidized ionic form of

sulfur, and can cause adverse respiratory effects, degrade visibility, and harm or damage ecosystems and property. Visibility reducing particles consist of suspended particulate matter (PM), which is a complex mixture of dry, solid fragments; solid cores with liquid coatings; and small droplets of liquid. These particles can severely impair visibility and contribute to regional haze.

Further information about criteria pollutants and the common sources and health effects of criteria pollutants can be found in the BAAQMD 2012 CEQA Air Quality Guidelines (BAAQMD 2012a). Both the federal government and the state government have established air quality standards and goals to protect human health. Areas that meet these standards are designated as "attainment" areas, and areas that do not meet these standards are designated as "nonattainment" areas. Goals are established to improve air quality in nonattainment-designated areas. Additional information regarding attainment and the regulatory environment is provided in Section 3.13.2, Regulatory Setting.

Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health impact may pose a threat to public health even at low concentrations. TACs can cause long-term health effects (such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) or short-term acute affects (such as eye watering, respiratory irritation, runny nose, throat pain, or headaches). The following 10 compounds pose the greatest known ambient risk based on air quality data or, in the case of diesel exhaust, concentration estimates: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel PM. Naturally occurring asbestos (NOA) in rock and soil may also be of concern during earthmoving activities, as these activities can break NOA down to microscopic fibers that are easily suspended in air. When inhaled, these thin fibers irritate tissues and resist the body's natural defenses.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to a particular TAC. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Cancer risk is typically expressed as excess cancer cases per 1 million exposed individuals, typically over a lifetime exposure or other prolonged duration. For non-carcinogenic substances, there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels may vary depending on the specific pollutant. Acute and chronic exposure to non-carcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to an acceptable reference exposure levels.

Odors

Typically, odors are regarded as a nuisance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, headache). Sources of existing odor in the South Bay include the salt ponds. When algae and other biomass (which grow in the ponds) naturally decompose, H_2S gas can be produced, which generates odors. Also, odors are generated when the ponds dry and the mud bottoms are exposed to air (exposure of algae or brine shrimp). No odor complaints have been received in the Alviso and Ravenswood pond complexes since the United States Fish and Wildlife Service (USFWS) took over management of the ponds (Mruz, pers. comm., 2014).

Project Setting

This section focuses on the air quality conditions in the Phase 2 project area.

Alviso Pond Complex

Three of the Phase 2 pond clusters are in the Alviso pond complex, which is in the Santa Clara Valley subregion of the SFBAAB. The pollution potential is considered high in this subregion (BAAQMD 2012a). In this subregion, temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild; mean maximum temperatures within the pond complex are in the low-80s (degrees Fahrenheit) during the summer and the high-50s (degrees Fahrenheit) during the winter.

BAAQMD operates a regional air quality monitoring network that regularly measures the concentrations of the major criteria air pollutants. The nearest air quality monitoring station that provides the most representative ambient air quality at the pond complex is the San Jose–Jackson Street Station. Based on the monitoring data shown in Table 3.13-1, the $PM_{2.5}$, PM_{10}, and O_3 levels at this station have exceeded the ambient air quality standards consistently from 2011 through 2013. The NO_2 and CO emissions have consistently been below the ambient air quality standards in these years.

According to the California Geological Survey's map of *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*, there are no NOA occurrences within the Alviso Pond Complex project area (USGS 2011).

Table 3.13-1 Summary of Ambient Air Quality in the Vicinity of the Alviso Pond Complex

POLLUTANT	STANDARD/EXCEEDANCE	SAN JOSE–JACKSON STREET STATION		
		2011	2012	2013
Ozone (O_3)	Max. 1-hour concentration (parts per million [ppm])	**0.098**	**0.101**	0.093
	Max. 8-hour concentration (ppm)	0.067	0.063	**0.080**
	# Days > federal 8-hour standard (std.) of > 0.075 ppm	0	0	1
	# Days > California 1-hour std. of > 0.09 ppm	1	1	0
	# Days > California 8-hour std. of > 0.07 ppm	0	0	1
Fine particulate matter ($PM_{2.5}$)	Max. 24-hour concentration (micrograms per cubic meter [µg/m^3])	**50.5**	**38.4**	**57.7**
	#Days > fed. 24-hour std. of > 35 µg/m^3	3	2	4
	Annual average (µg/m^3)	9.9	*	**12.4**
Respirable particulate matter (PM_{10})	Max. 24-hour concentration (µg/m^3)	44.3	**59.6**	**58.1**
	#Days > fed. 24-hour std. of > 150 µg/m^3	0	0	0
	#Days > California 24-hour std. of > 50 µg/m^3	0	1	5
	Annual average (µg/m3)	19.2	18.8	**22.2**
Carbon monoxide (CO)	Max. 8-hour concentration (ppm)	2.18	1.86	*
	# Days > federal 8-hour std. of > 9 ppm	0	0	*
	# Days > California 8-hour std. of > 9 ppm	0	0	*

Table 3.13-1 Summary of Ambient Air Quality in the Vicinity of the Alviso Pond Complex

POLLUTANT	STANDARD/EXCEEDANCE	SAN JOSE–JACKSON STREET STATION		
		2011	2012	2013
Nitrogen dioxide (NO_2)	Max. 1-hour concentration (ppm)	0.061	0.067	0.059
	# Days > California 1-hour std. of > 0.18 ppm	0	0	0
	Annual average (ppm)	0.014	0.013	0.015
Sulfur dioxide (SO_2)	Max. 24-hour concentration (ppm)	0.003	0.003	0.001
	Annual average (ppm)	0.000	*	*

Notes:

Data from San Jose–Jackson Street Monitoring Station.

* Indicates there was insufficient data to determine the value.

Exceedances of federal or state standards are shown in **bold** text.

Source of air quality monitoring data: CARB 2014.

Alviso-Island Ponds

The Alviso-Island pond cluster is in the eastern portion of the Alviso pond complex. The ponds in this cluster are oriented east to west between Mud Slough to the north and west and Coyote Creek to the south. The community of Alviso and the cities of Milpitas and Fremont are to the south and to the north and east, respectively, but the ponds are geographically isolated from any urbanized and built-out areas by waterbodies, other salt ponds, and a landfill. The former community of Drawbridge is on a strip of land between Pond A20 and Pond A21. That strip of land also holds an active Union Pacific Railroad track.

The air quality characteristics of these ponds are similar to those described for the entire pond complex, due to the regional nature of air quality effects. There are no sensitive receptors within the pond cluster and limited sensitive receptors adjacent to the pond cluster. The closest sensitive land uses are in the city of Fremont (residences); they are approximately 8,000 feet east of the eastern boundary of the pond cluster (City of Fremont 2011).

Alviso-Mountain View Ponds

The Alviso-Mountain View pond cluster is in the western portion of the Alviso pond complex. The ponds, creek, and sloughs of the pond cluster are adjacent to each other in an east-to-west orientation between the Palo Alto Flood Basin to the west, Mountain View Shoreline Park and Stevens Creek Marsh to the south, Stevens Creek to the east, and open bay water to the north. The cities of Mountain View and Palo Alto are immediately inland of the pond cluster to the south and west, respectively.

The air quality characteristics of these ponds are similar to those described for the entire pond complex, due to the regional nature of air quality effects. There are no sensitive receptors within the pond cluster and limited sensitive receptors adjacent to the pond cluster. The closest sensitive land uses are in the city of Palo Alto (residences); they are approximately 3,400 feet southwest of the western boundary of the pond cluster (City of Mountain View 2012; City of Palo Alto 2011).

Alviso-A8 Ponds

The Alviso-A8 Pond cluster is on the southern portion of the Alviso pond complex. It is bounded to the north and west by other ponds, to the south by open space, and to the east by the community of Alviso. The Guadalupe River separates the pond from the community.

The air quality characteristics of these ponds are similar to those described for the entire pond complex, due to the regional nature of air quality effects. There are no sensitive receptors within the pond cluster and limited sensitive receptors adjacent to the pond cluster. The closest sensitive land uses are in the community of Alviso (residences); they are approximately 600 feet to the east of the pond cluster eastern boundary (City of San Jose 2011). George Mayne Elementary School in the community of Alviso is approximately 3,600 feet to the east of the eastern boundary.

Ravenswood Ponds

The Ravenswood pond complex is in the peninsula subregion of the SFBAAB. In the peninsula subregion, air pollution potential is highest in the southeastern portion due to the topography, meteorology, and emission sources of the area (BAAQMD 2012a).

The nearest monitoring station that provides the most representative ambient air quality for the Ravenswood pond complex is the Redwood City Station. Based on the monitoring data shown in Table 3.13-2, $PM_{2.5}$ concentrations exceeded the ambient air quality standards in 2011 and 2013, and O_3 concentrations exceeded the standards in 2013. NO_2 and CO concentrations have consistently been below the ambient air quality standards since 2011. According to the California Geological Survey's map of *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California,* there are no NOA occurrences within the Ravenswood pond complex project area (USGS 2011).

Table 3.13-2 Summary of Ambient Air Quality in the Vicinity of the Ravenswood Pond Complex

POLLUTANT	STANDARD/EXCEEDANCES	REDWOOD CITY STATION		
		2011	2012	2013
Ozone (O_3)	Max. 1-hour concentration (ppm)	0.076	0.063	0.083
	Max. 8-hour concentration (ppm)	0.062	0.055	**0.076**
	# Days > federal 8-hour std. of > 0.075 ppm	0	0	0
	# Days > California 1-hour std. of > 0.09 ppm	0	0	0
	# Days > California 8-hour std. of > 0.07 ppm	0	0	1
Fine particulate matter ($PM_{2.5}$)	Max. 24-hour concentration (µg/m^3)	**39.7**	34.3	**39.0**
	#Days > federal 24-hour std. of > 35 µg/m^3	1	0	3
	Annual average (µg/m^3)	8.7	8.5	10.7
Carbon monoxide (CO)	Max. 8-hour concentration (ppm)	1.67	1.81	*
	# Days > federal 8-hour std. of > 9 ppm	0	0	*
	# Days > California 8-hour std. of > 9 ppm	0	0	*

Table 3.13-2 Summary of Ambient Air Quality in the Vicinity of the Ravenswood Pond Complex

POLLUTANT	STANDARD/EXCEEDANCES	REDWOOD CITY STATION		
		2011	2012	2013
Nitrogen dioxide (NO_2)	Max. 1-hour concentration (ppm)	0.056	0.060	0.054
	# Days > California 1-hour std. of > 0.18 ppm	0	0	0
	Annual average (ppm)	0.012	0.011	0.012

Notes:
Data from Redwood City Monitoring Station.
* Indicates there was insufficient data to determine the value.
Exceedances of federal or state standards are shown in **bold** text.
Source of air quality monitoring data: CARB 2014.

The Phase 2 Ravenswood pond cluster is the western half of the Ravenswood pond complex as a whole. The Phase 2 Ravenswood ponds are bordered by the Bedwell Bayfront Park to the west, State Route 84 and the City of Menlo Park to the south, Ravenswood Slough to the east, and Greco Island and open bay water to the north. The City of Menlo Park is immediately inland of the pond cluster to the south and west.

The air quality characteristics of these ponds are similar to those described for the entire pond complex, due to the regional nature of air quality effects. There are no sensitive receptors within the pond cluster and limited sensitive receptors adjacent to the pond cluster. The closest sensitive uses are in the city of Menlo Park (residences); they are approximately 1,000 feet south of the southern boundary of the pond cluster (City of Menlo Park 2013). Beechwood School and Belle Haven Elementary School are both approximately 1,600 feet south of the pond cluster.

Existing Conditions

Currently, the Alviso-Mountain View pond cluster contains recreational uses along the western levee of Charleston Slough and the southern borders of Ponds A1 and A2W, the latter of which are in the City of Mountain View's Shoreline Park. Recreational uses are also adjacent to the Ravenswood pond cluster in the City of Menlo Park's Bedwell Bayfront Park. Access to these areas for recreational uses results in indirect sources of mobile emissions. Mobile emissions may also be generated by USFWS staff and others (e.g., Pacific Gas and Electric Company [PG&E] staff) accessing the project areas to perform Adaptive Management Plan (AMP) monitoring, research, and operation and maintenance (O&M) activities for facilities within and near the pond clusters. Activities can include replacement and/or repairs of water control structures, limited levee maintenance and inspection, and trail maintenance. A pump is currently used to draw 8 to 10 million gallons of water per day from Charleston Slough and deliver it to Shoreline Park's sailing lake. The intake is as the foot of Charleston Slough on the southwestern edge of the Alviso-Mountain View pond cluster.

3.13.2 Regulatory Setting

Air quality in the South Bay is regulated by the United States Environmental Protection Agency (USEPA), California Air Resources Board (CARB), and the BAAQMD. Each of these agencies develops rules, regulations, policies, and/or goals to attain the directives imposed through legislation. Although USEPA regulations may not be superseded, both state and local regulations may be more stringent.

Federal Laws and Regulations

USEPA has been charged with implementing national air quality programs. USEPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major CAA amendments were made by Congress in 1990.

Federal Clean Air Act

The CAA required USEPA to establish national ambient air quality standards (NAAQS). USEPA has established primary and secondary NAAQS for the following criteria air pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The primary standards protect public health and the secondary standards protect public welfare. The primary standards are shown in Table 3.13-3, along with current attainment designations for the SFBAAB. The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. USEPA has responsibility to review all state SIPs to determine conformity to the mandates of the CAA and the amendments thereof and determine if implementation will achieve air quality goals. If USEPA determines an SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Table 3.13-3 Ambient Air Quality Standards and Designations

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS		FEDERAL STANDARDS	
		CONCENTRATION	ATTAINMENT STATUS	CONCENTRATION	ATTAINMENT STATUS
Ozone (O_3)	8 Hours	0.070 ppm (137 µg/m^3)	N	0.075 ppm	N
	1 Hour	0.09 ppm (180 µg/m^3)	N	—	—
Carbon monoxide (CO)	8 Hours	9.0 ppm (10 milligrams per cubic meter [mg/m^3])	A	9 ppm (10 mg/m^3)	A
	1 Hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	A
Nitrogen dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	A	0.100 ppm (188 µg/m^3)	U
	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	—	0.053 ppm (100 µg/m^3)	A

Table 3.13-3 Ambient Air Quality Standards and Designations

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS		FEDERAL STANDARDS	
		CONCENTRATION	ATTAINMENT STATUS	CONCENTRATION	ATTAINMENT STATUS
Sulfur dioxide (SO_2)	24 Hours	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	A
	1 Hour	0.25 ppm (655 µg/m^3)	A	0.075 ppm (196 µg/m^3)	A
	Annual arithmetic mean	—	—	0.030 ppm (80 µg/m^3)	A
Particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	N	—	—
	24 Hours	50 µg/m^3	N	150 µg/m^3	U
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	N	12.0 µg/m^3	A
	24 Hours	—	—	35 µg/m^3	N
Sulfates	24 Hours	25 µg/m^3	A	—	—
Lead	30-Day average	1.5 µg/m^3	A	—	A
	Calendar quarter	—	—	1.5 µg/m^3	A
	Rolling 3-month average	—	—	0.15 µg/m^3	U
Hydrogen sulfide	1 Hour	0.03 ppm (42 µg/m^3)	U	—	—
Vinyl chloride	24 Hours	0.010 ppm (26 µg/m^3)	U	—	—
Visibility reducing particles	8 Hours	Extinction of 0.23 per kilometer	U	—	—

Notes:

A = Attainment

N = Nonattainment

U = Unclassified

Source of attainment status: BAAQMD 2013a.

Source of federal and state standards: CARB 2013.

General Conformity

General conformity analysis is performed to determine if federal actions conform to the current SIP. If an area is designated as a federal nonattainment or maintenance area, general conformity applies for the criteria pollutants that are in nonattainment or maintenance. Within these areas, general conformity applies to any federal action not specifically exempted by the CAA or USEPA regulations. Emissions from construction activities are also included. General conformity does not apply to projects or actions that are covered by the transportation conformity rule. If a federal action falls under the general conformity rule, the federal agency responsible for the action is responsible for making the conformity

determination. Applicability analyses to determine conformity are required to quantify short- and long-term emissions of air pollutants from implementation of a proposed project and to determine whether the project would cause or contribute to any new violation of any standard, interfere with maintenance of any standard, increase the frequency or severity of any existing violation of any standard, or delay timely attainment of any standard. The applicability of Phase 2 actions to conformity is addressed in Section 3.13.3, Environmental Impacts and Mitigation Measures.

Federal Hazardous Air Pollutant Programs

USEPA has programs for identifying and regulating Hazardous Air Pollutants (HAPs). Title III of the CAAA directs USEPA to promulgate National Emissions Standards for HAPs (NESHAP). The NESHAP may have different standards for major sources than for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of any HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources. The standards require the application of technology-based emissions standards referred to as Maximum Achievable Control Technology (MACT). USEPA completed the emission standards required by Section 112 of the CAA in 2011 (USEPA 2011). The enforcement of these standards is currently supported by USEPA's Air Toxics National Enforcement Initiative.

The CAAA also required USEPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. Also, Section 219 of the CAAA required the use of reformulated gasoline in selected areas with the most severe O_3 nonattainment conditions to further reduce mobile-source emissions.

State Laws and Regulations

California Clean Air Act

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA was adopted in 1988; it requires CARB to establish California Ambient Air Quality Standards (CAAQS) (Table 3.13-1). CARB has established CAAQS for sulfates, H_2S, vinyl chloride, visibility reducing particulate matter, and the above-mentioned federal criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS.

Other CARB responsibilities include, but are not limited to, overseeing local air district compliance with California and federal laws; approving local air quality plans; submitting SIPs to USEPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

In-Use Off-Road Diesel Vehicle Regulation

In 2007, CARB adopted a regulation to reduce diesel particulate matter and NO_x emissions from in-use off-road heavy-duty diesel vehicles in California. The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust retrofits to older engines. In December 2010, major amendments were made to the regulation, including a delay of the first performance standards compliance date to no earlier than January 1, 2014 (CARB 2010).

State Toxic Air Contaminant Programs

TACs in California are primarily regulated through the Tanner Air Toxics Act (California Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (Hot Spots Act). To date, CARB has identified over 21 TACs, and adopted USEPA's list of HAPs as TACs.

CARB has adopted Airborne Toxics Control Measures for sources that emit a particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

CARB adopted a Diesel Risk Reduction Plan, which recommends control measures to achieve a diesel PM reduction of 85 percent by 2020 from year 2000 levels. Recent regulations and programs include the low-sulfur diesel fuel requirement and more stringent emission standards for heavy-duty diesel trucks and off-road in-use diesel equipment. As emissions are reduced, it is expected that the risks associated with exposure to the emissions will also be reduced.

Local Laws and Regulations

Bay Area Air Quality Management District

BAAQMD is the primary agency responsible for ensuring that air quality standards (NAAQS and CAAQS) are attained and maintained in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. BAAQMD prepares plans to attain ambient air quality standards in the SFBAAB. BAAQMD prepares ozone attainment plans (OAPs) for the national ozone standard, clean air plans (CAPs) for the California standard, and particulate matter plans to fulfill federal air quality planning requirements. BAAQMD also inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and the CCAA.

California Environmental Quality Act Guidelines

BAAQMD developed quantitative thresholds of significance for its California Environmental Quality Act (CEQA) guidelines in 2010, which were also included in its updated 2011 guidelines (BAAQMD 2010a, 2011). BAAQMD's adoption of the 2010 thresholds of significance (2010 Thresholds) was later challenged, resulting in a court-ordered ruling issued March 5, 2012, in *California Building Industry Association v. BAAQMD* (Alameda County Superior Court Case No. RGI0548693). The order requires the BAAQMD thresholds to be subject to further environmental review under CEQA. As a result, BAAQMD released updated guidelines in 2012 with references to the CEQA thresholds removed (BAAQMD 2012a). BAAQMD later appealed the ruling, and the judgment was reversed on August 13, 2013, by the Court of Appeal of the State of California, First Appellate District. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review, and the matter is currently pending there.

The claims made in the case concerned the CEQA impacts of adopting the thresholds, and petitioners argued that the thresholds for Health Risk Assessments encompassed issues not addressed by CEQA. The court did not specifically address whether the thresholds were supported by "substantial evidence." At this time, BAAQMD is no longer recommending use of the 2010 Thresholds, and instead recommends

that lead agencies determine appropriate air quality thresholds of significance based on substantial evidence in the record.

For this air quality analysis, the 2010 Thresholds were used because they were established based on substantial evidence. The BAAQMD released the "Proposed Thresholds of Significance" in 2009, which listed the proposed thresholds for criteria pollutants, greenhouse gases (GHGs), community risk and hazards, and odors. BAAQMD researched existing and projected sources of air quality contaminants and designed the 2010 Thresholds to comply with state and federal standards. The report "provides the *substantial evidence* in support of the thresholds of significance…" (emphasis added) (BAAQMD 2009). The thresholds for criteria pollutants were developed through a quantitative examination of the efficacy of fugitive dust mitigation measures and a quantitative examination of statewide non-attainment emissions.

The issues identified in the BAAQMD CEQA Air Quality Guidelines' court case are not considered relevant to the scientific soundness of the BAAQMD's analysis of the level at which a pollutant would potentially significantly affect air quality. Therefore, the usage of these 2010 Thresholds is consistent with the BAAQMD's direction that thresholds should be based on substantial evidence.

BAAQMD 2010 Clean Air Plan

BAAQMD adopted the Bay Area Clean Air Plan (Bay Area CAP) in 2010 to provide a plan to improve Bay Area air quality and meet public health goals. More specifically, the control strategy described in the Bay Area CAP is designed to reduce emissions and decrease ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reduce GHG emissions to protect the climate.

The Bay Area CAP addresses four categories of pollutants: (1) ground-level O_3 and its key precursors, ROG and NO_x; (2) PM, primarily $PM_{2.5}$, and precursors to secondary $PM_{2.5}$; (3) air toxics; and (4) GHGs. The control strategy in the Bay Area CAP describes stationary source measures, transportation control measures, mobile source measures, land use and local impact measures, energy and climate measures, and further study measures to reduce air pollutants (BAAQMD 2010b).

Particulate Matter Plan

To fulfill federal air quality planning requirements, the BAAQMD adopted a $PM_{2.5}$ emissions inventory for year 2010 at a public hearing on November 7, 2012. The Bay Area 2010 CAP also included several measures for reducing PM emissions. On January 9, 2013, USEPA issued a final rule determining that the San Francisco Bay Area has attained the 24-hour $PM_{2.5}$ NAAQS, suspending federal SIP planning requirements for the Bay Area (BAAQMD 2013b). The San Francisco Bay Area is currently designated as an attainment maintenance area.

BAAQMD 2001 Ozone Attainment Plan

BAAQMD adopted the Bay Area Ozone Attainment Plan in 2001 in response to USEPA's finding of failure of the Bay Area to attain the national ambient air quality standard for O_3. The plan includes a control strategy for O_3 and its precursors to ensure reduction in emissions from stationary sources, mobile sources, and the transportation sector (BAAQMD 2001).

Plan Bay Area

On July 18, 2013, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) approved the Plan Bay Area. The plan includes the San Francisco Bay Area Sustainable Communities Strategy (SCS), in accordance with California Senate Bill (SB) 375, and the 2040 Regional Transportation Plan. The Bay Area Plan includes integrated land use and transportation strategies for the region and was developed through OneBayArea, a joint initiative between ABAG, BAAQMD, MTC, and the Bay Conservation and Development Commission (BCDC). The plan's transportation policies focus on maintaining the extensive existing transportation network and utilizing these systems more efficiently to handle density in Bay Area transportation cores (ABAG and MTC 2013).

Local Toxic Air Contaminant Programs

Under BAAQMD regulations, all stationary sources that possess the potential to emit TACs are required to obtain permits from BAAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. BAAQMD limits emissions and public exposure to TACs through a number of programs. BAAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Odors

Because offensive odors rarely cause any physical harm, neither the state nor the federal government has adopted any rules or regulations regarding odors. However, BAAQMD has adopted Regulation 7 (Odorous Substances), which specifically addresses citizen complaints. If 10 or more complaints are received within a 90-day period alleging that a person has caused odors perceived at or beyond the property line of such person and that these odors are deemed to be objectionable by the complainants in the normal course of their work, travel or residence, this regulation becomes applicable. When 10 or more citizen complaints are received, the limits of this regulation become effective and shall remain effective until such time as no citizen complaints have been received by the Air Pollution Control Officer for 1 year. The limits of this regulation shall become applicable again when the Air Pollution Control Officer receives odor complaints from five or more complainants within a 90-day period.

General Plans

Many of the cities and counties near the project area have adopted general plans containing strategies and policies regarding air quality and emissions. Applicable items from these plans include the following:

- City of Fremont General Plan – **Implementation 7-7.1.G: Air Emission Standards.** Promote enforcement of air emission standards by BAAQMD.
- City of Fremont General Plan – **Implementation 7-7.2.A: Construction Practices.** Require construction practices that reduce dust and other particulate emissions and require watering of exposed areas at construction sites.
- City of Fremont General Plan – **Implementation 7-7.4.A: Alternative-Fuel Vehicles.** Encourage other agencies and private industry to use alternative-fuel vehicles.

- City of Menlo Park General Plan – **Policy OSC5.1 Air and Water Quality Standards.** Continue to apply standards and policies established by the BAAQMD, San Mateo Countywide Water Pollution Prevention Program …, and City of Menlo Park Climate Action Plan through the California Environmental Quality Act … process and other means as applicable.
- City of Mountain View General Plan – **Policy INC 20.1: Pollution prevention.** Discourage mobile and stationary sources of air pollution.
- City of Mountain View General Plan – **Policy INC 20.6: Air quality standards.** Protect the public and construction workers from construction exhaust and particulate emissions.
- City of Mountain View General Plan – **Policy INC 20.7: Protect sensitive receptors.** Protect the public from substantial pollutant concentrations.
- City of Mountain View General Plan – **Policy INC 20.8: Offensive odors.** Protect residents from offensive odors.
- City of Palo Alto General Plan – **Policy N-27.** Reduce emission of particulates from wood burning stoves, construction activity, automobiles, and other sources.
- City of San Jose – **Policy MS-11.3.** Review projects generating significant heavy duty truck traffic to designate truck routes that minimize exposure of sensitive receptors to TACs and particulate matter.
- City of San Jose – **Action MS-11.8.** For new projects that generate truck traffic, require signage which reminds drivers that the State truck idling law limits truck idling to five minutes.
- City of San Jose – **Policy MS-12.1.** For new, expanded, or modified facilities that are potential sources of objectionable odors (such as landfills, green waste and resource recovery facilities, wastewater treatment facilities, asphalt batch plants, and food processors), the City requires an analysis of possible odor impacts and the provision of odor minimization and control measures as mitigation.
- City of San Jose – **Policy MS-13.1.** Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines for the relevant project size and type.
- City of San Jose – **Policy MS-13.2.** Construction and/or demolition projects that have the potential to disturb asbestos (from soil or building material) shall comply with all the requirements of the California Air Resources Board's air toxics control measures for Construction, Grading, Quarrying, and Surface Mining Operations.
- City of San Jose – **Action MS-13.4.** Adopt and periodically update dust, particulate, and exhaust control standard measures for demolition and grading activities to include on project plans as conditions of approval based upon construction mitigation measures in the BAAQMD CEQA Guidelines.

- City of San Jose – **Action MS-13.5.** Prevent silt loading on roadways that generates particulate matter air pollution by prohibiting unpaved or unprotected access to public roadways from construction sites.
- City of San Jose – **Action MS-13.6.** Revise the grading ordinance and condition grading permits to require that graded areas be stabilized from the completion of grading to commencement of construction.

3.13.3 Environmental Impacts and Mitigation Measures

Overview

The proposed Phase 2 activities were evaluated to determine whether each alternative conforms to the SIP (as described in Section 3.13.2, Regulatory Setting) and whether each alternative would exceed the thresholds contained in the BAAQMD 2011 Guidelines, as described above (BAAQMD 2012a). The SFBAAB is currently designated as a marginal nonattainment area with respect to the national 8-hour ozone standard and as a nonattainment area for the 24-hour $PM_{2.5}$ standard. Also, portions of the SFBAAB are designated as maintenance areas for the national CO standard. General conformity requirements would not apply to actions where the total project-generated direct or indirect emissions would not be equal to or exceed the applicable emissions levels, known as the de minimis thresholds, and would be less than 10 percent of the area's annual emissions budget, known as regionally significant thresholds. The de minimis thresholds applicable to the SFBAAB are 50 tons per year for ROGs and 100 tons per year for $PM_{2.5}$, NO_x, and CO.

Significance Criteria

For the purpose of this analysis, the project would result in a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines (AEP 2014), the significance standards established by the applicable air quality management or air pollution control district may be used to evaluate impacts. Impacts related to the first two significance criteria are discussed in the short term under Phase 2 Impact 3.13-1 and in the long term under Phase 2 Impact 3.13-2. Impacts to sensitive receptors from exposure to substantial pollutant concentrations, including TACs, are discussed in Phase 2 Impact 3.13-3. Impacts from objectionable odors are discussed in Phase 2 Impact 3.13-4.

As discussed in the Section 3.13.2, Regulatory Setting, this analysis follows the thresholds and methodology contained in the BAAQMD 2011 Guidelines. According to these Guidelines, if average daily emissions of construction-related criteria air pollutants or precursors would exceed any applicable threshold of significance listed in Table 3.13-4, the project would result in a significant impact.

Table 3.13-4 Thresholds of Significance for Construction-Related Activities

POLLUTANT	AVERAGE DAILY EMISSIONS (LB/DAY)
ROG	54
NO_x	54
PM_{10} (exhaust only)	82
$PM_{2.5}$ (exhaust only)	54
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices
Source: BAAQMD 2011.	

If average daily or maximum annual emissions of operational-related criteria air pollutants or precursors would exceed any applicable threshold of significance listed in Table 3.13-5, the project would result in a significant impact. According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan.

Table 3.13-5 Thresholds of Significance for Operations-Related Activities

POLLUTANT	MAXIMUM ANNUAL EMISSIONS (TONS/YEAR)	AVERAGE DAILY EMISSIONS (LB/DAY)
ROG	10	54
NOx	10	54
PM_{10}	15	82
$PM_{2.5}$	10	54
Source: BAAQMD 2011.		

The BAAQMD defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these types of land uses include schools, hospitals, and residential areas. The BAAQMD 2011 Guidelines recommend a phased approach to estimating community risks and hazards. A site screening should be conducted to determine if the project would result in receptors being within 1,000 feet of a PM or TAC source. A project would be considered to have a significant impact on sensitive receptors if it would result in release of toxic air contaminants (diesel particulate matter and volatile organic compounds) that would increase cancer risk by 10 in 1,000,000, non-cancer chronic risk by 1.0 Hazard Index, or increase $PM_{2.5}$ concentrations above 0.3 $\mu g/m^3$ on an annual average basis within a zone of influence that includes a 1,000-foot radius around the project property lines.

Odors would be considered significant if the project would result in a frequent exposure of members of the public to objectionable odors or five or more confirmed complaints per year averaged over 3 years. According to the BAAQMD, typical uses that may result in significant odor impacts include wastewater

treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, painting/coating operations, rendering plants, and coffee roasters.

As explained in Section 3.1.2, Environmental Setting and Impact Analysis, although both the CEQ Regulations for Implementing NEPA (CEQ 2015) and the CEQA Guidelines were considered during the impact analysis, the impacts identified in this Final EIS/R are characterized using CEQA terminology. Please refer to Section 3.1.2 for a description of the terminology used to explain the severity of the impacts.

Program-Level Evaluation Summary

On a programmatic level, the determination was made in the 2007 EIS/R that under the implementation of Programmatic Alternative C, the alternative selected for implementation, there would be less-than-significant impacts as a result of long-term emissions and odors. Short-term emissions and TAC impacts for this alternative were less than significant with mitigation. Program-level mitigation measures were developed to minimize construction-generated fugitive dust emissions and to minimize the potential effects of TAC emissions to sensitive receptors. These mitigation measures, updated to match BAAQMD's 2012 CEQA Guidelines (BAAQMD 2012a), have been incorporated into the project design of all Action Alternatives. Because Phase 2 of the South Bay Salt Pond (SBSP) Restoration Project is an early phase of the overall SBSP Restoration Project, its implemented actions meet the objectives of Programmatic Alternative B as well as Programmatic Alternative C. The impacts and mitigation measures for Programmatic Alternative B were the same as those for Alternative C, summarized above.

Project-Level Evaluation

The following paragraphs summarize common definitions and methodological approaches that were used in conducting all of the project-level impacts for the construction phase and the operations phase of the SBSP Restoration Project.

Construction

Construction activities associated with the Action Alternatives may generate direct emissions from off-road equipment usage and earthmoving activities (for fugitive dust). Project-specific equipment types, equipment activities, and construction phasing and durations were used in the analysis. Emissions from off-road construction equipment were calculated using emission factors from CARB's OFFROAD2011 and OFFROAD2007, as compiled by the Sacramento Metropolitan Air Quality Management District (SMAQMD) Sacramento Metropolitan Air Quality Management District (SMAQMD 2013). RoadMod emission factors use OFFROAD2007 emissions data for select pollutants and equipment types that are not available in OFFROAD2011. Portable barges used to carry fuel and position equipment and fill material were assumed to be non-self-propelled and maneuvered using a gasoline-powered outboard motor boat. Fugitive dust emissions were estimated using methodologies from USEPA AP-42 (CAPCOA 2013). Further modeling input assumptions and output results are provided in Appendix H.

Construction may also generate on-road vehicle trips from workers, construction staff, and material hauling. Project-specific worker trip rates were used in the analysis. On-road vehicle emissions from worker and construction staff trips were calculated using emission factors from EMFAC2011, as compiled by RoadMod v7.1.4 (SMAQMD 2013). Fleet mix and trip length assumptions used in the analysis were consistent with methodologies from SMAQMD RoadMod v7.1.4. As discussed in Chapter

2, Alternatives, the fill material used for construction would be surplus fill material originating from local off-site resources. Emissions associated with the transport of this material from these off-site locations to landfills have already been evaluated as a component of prior projects. As described in Section 3.11, Traffic, the Phase 2 construction would result in these haul truck trips being diverted from their original landfill destinations to the applicable Phase 2 project areas. Portions of the truck trip lengths to the applicable Phase 2 project areas were considered to be generated by Phase 2 to provide a conservative estimate of construction emissions. The material-hauling truck trip lengths for each pond cluster were estimated using the distance from nearby U.S. Highway 101 (U.S. 101) freeway exits to the project sites; transport from the source project(s) onto U.S. 101 and to the relevant exit for the SBSP Restoration Project are assumed to be covered by the NEPA/CEQA document for those source project(s), as that material would need to be transported to a disposal site regardless of the SBSP Restoration Project. Detailed modeling input assumptions and output results are provided in Appendix H.

Construction emissions for the Phase 2 pond clusters and alternatives are presented in Phase 2 Impact 3.13-1.

Operations

Operations at the pond clusters under all No Action[1] and Action Alternatives may generate direct emissions from equipment usage and on-road vehicle trips during the O&M activities described in Chapter 2, Alternatives. These activities include levee inspections and maintenance, water control structure maintenance, railroad track maintenance, and biological surveys. Pumps are currently used at the Alviso-Mountain View pond cluster and would continue operating under the No Action and Action Alternatives for the Alviso-Mountain View pond cluster. Water control structures would be installed under certain alternatives. However, operation of these water control structures would involve adjustments of hand-operated gates and would not require the use of off-road equipment. The No Action and Action Alternatives are not expected to substantially increase the level of operational activities at any of the pond clusters. Therefore, operational activities and operational emissions at the pond clusters would be similar to existing conditions under the No Action and Action Alternatives. Operations emissions for the pond clusters and alternatives are presentation in Phase 2 Impact 3.13-2.

Phase 2 Impact 3.13-1: Short-term construction-generated air pollutant emissions.

Alviso-Island Ponds

Alternative Island A (No Action). Under Alternative Island A (the No Action Alternative), no construction activities would occur within the Alviso-Island pond cluster. Although O&M activities would be ongoing, they are considered part of project operation, not project construction. As such, no construction-generated emissions would occur.

Long-term operational air pollutant emissions are evaluated in Phase 2 Impact 3.13-2.

Alternative Island A Level of Significance: No Impact

1 "No Action Alternative" is the NEPA term. It corresponds to the CEQA term "No Project Alternative." This Final EIS/R uses No Action throughout.

Alternative Island B. Implementation of Alternative Island B would involve removal, breaching, and lowering of levees. Construction activities would last approximately 16 months. Earthmoving activity would occur under Alternative B, but materials would be used on-site and not require off-site hauling trips. Construction activities would result in the temporary generation of emissions from earthmoving activities, exhaust from off-road equipment and worker commute activity, and other miscellaneous activities.

As shown in Table 3.13-6, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed the applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Island B would conform to the SIP.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-related emissions would not exceed the thresholds of significance, Alternative Island B would not conflict with the applicable air quality plan.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. The project design features include a number of fugitive dust control measures that would meet the BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines (BAAQMD 2011).

Table 3.13-6 Alternative Island B Construction Emissions Summary

EMISSIONS	ROG	CO	NO_X	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	0.11	0.64	1.03	0.05	0.05	0.05	0.05
Construction (tons/year)	0.08	0.48	0.77	0.04	0.04	0.04	0.04
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	0.64	3.61	5.84	0.30	0.27	0.30	0.27
BAAQMD thresholds (lb/day)	54	—	54	82	54	Best Manage-ment Practices (BMP)s	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:

Alternative Island B construction assumed to occur over 16 months, 22 days/month.

See Appendix H for modeling input assumptions and output results.

Because construction activities associated with Alternative Island B would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative B would be less than significant.

Alternative Island B would generate minimal short-term construction emissions and would therefore have a less-than-significant impact on air quality.

Alternative Island B Level of Significance: Less than Significant

Alternative Island C. Implementation of Alternative Island C would involve excavation of pilot channels and the removal, breaching, and lowering of levees. Construction activities would last approximately 19 months. Earthmoving activity would occur under Alternative C, but materials would be used on-site and not require off-site hauling trips. Construction activities would result in the temporary generation of emissions from earthmoving activities, exhaust from off-road equipment and worker commute activity, and other miscellaneous activities.

As shown in Table 3.13-7, construction-generated daily emissions of ROGs, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds, and annual emissions of ROGs, CO, NO_x, and total $PM_{2.5}$ would not exceed the applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Island C would conform to the SIP.

Table 3.13-7 Alternative Island C Construction Emissions Summary

EMISSIONS	ROG	CO	NO_X	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	0.31	1.28	1.71	0.11	0.10	0.11	0.10
Construction (tons/year)	0.20	0.81	1.08	0.07	0.06	0.07	0.06
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	1.50	6.13	8.17	0.53	0.48	0.53	0.48
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:

Alternative Island C construction assumed to occur over 19 months, 22 days/month.

See Appendix H for modeling input assumptions and output results.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-related emissions would not exceed the thresholds of significance, Alternative Island C would not conflict with the applicable air quality plan. Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. As discussed in Alternative Island B, project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative Island C would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative C would be less than significant.

Alternative Island C would generate minimal short-term construction emissions and would therefore have a less-than-significant impact on air quality.

Alternative Island C Level of Significance: Less than Significant

Alviso-Mountain View Ponds

Alternative Mountain View A (No Action). Under Alternative Mountain View A (the No Action Alternative), no construction activities would occur within the Alviso-Mountain View pond cluster. While O&M activities would be ongoing, they are considered part of project operation, not project construction. As such, no construction-generated emissions would occur.

Long-term operational air pollutant emissions are evaluated in Phase 2 Impact 3.13-2.

Alternative Mountain View A Level of Significance: No Impact

Alternative Mountain View B. Implementation of Alternative Mountain View B would involve levee improvements, creation of islands, creation of tidal habitat, and construction of recreational facilities. Construction activities would last approximately 27 months. Approximately 296,400 cubic yards (cy) of material would be transported to the project area from off-site locations. Construction would result in the temporary generation of emissions from earthmoving activities; exhaust from off-road equipment, material hauling, and worker commute activity; and other miscellaneous activities.

As shown in Table 3.13-8, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed the applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Mountain View B would conform to the SIP.

Table 3.13-8 Alternative Mountain View B Construction Emissions Summary

EMISSIONS	ROG	CO	NO_x	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	4.98	10.32	8.20	1.07	0.97	1.16	0.98
Construction (tons/year)	2.21	4.59	3.64	0.47	0.43	0.52	0.44
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	16.76	34.75	27.60	3.59	3.27	3.92	3.30
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:

Alternative Mountain View B construction assumed to occur over 27 months, 22 days/month.

See Appendix H for modeling input assumptions and output results.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-generated emissions

would not exceed the thresholds of significance, Alternative Mountain View B would not conflict with the applicable air quality plan.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. Project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative Mountain View B would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative B would be less than significant.

Alternative Mountain View B would generate minimal short-term construction emissions and would therefore have a less-than-significant impact on air quality.

Alternative Mountain View B Level of Significance: Less than Significant

Alternative Mountain View C. Implementation of Alternative Mountain View C would involve levee improvements, creation of islands, creation of tidal habitat, and construction of recreational facilities. Construction activities would last approximately 35 months. Approximately 369,600 cy of material would be transported to the project area from off-site locations. Construction activities would result in the temporary generation of emissions from earthmoving activities; exhaust from off-road equipment, material hauling, and worker commute activity; and other miscellaneous activities.

As shown in Table 3.13-9, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed the applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Mountain View C would conform to the SIP.

Table 3.13-9 Alternative Mountain View C Construction Emissions Summary

EMISSIONS	ROG	CO	NO_x	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	5.01	10.47	8.71	1.08	0.98	1.15	0.99
Construction (tons/year)	2.00	4.19	3.48	0.43	0.39	0.46	0.39
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	15.18	31.74	26.38	3.26	2.97	3.47	2.99
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:

Alternative Mountain View C construction assumed to occur over 35 months, 22 days/month.

See Appendix H for modeling input assumptions and output results.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-generated emissions would not exceed the thresholds of significance, Alternative Mountain View C would not conflict with the applicable air quality plan.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. Project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative Mountain View C would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative C would be less than significant.

Alternative Mountain View C would generate minimal short-term construction emissions and would therefore have a less-than-significant impact on air quality.

Alternative Mountain View C Level of Significance: Less than Significant

Alviso-A8 Ponds

Alternative A8 A (No Action). Under Alternative A8 A (the No Action Alternative), no construction activities would occur within the Alviso-A8 pond cluster. While limited O&M activities would be ongoing, they are considered part of project operation, not project construction. As such, no construction-generated emissions would occur.

Long-term operational air pollutant emissions are evaluated in Phase 2 Impact 3.13-2.

Alternative A8 A Level of Significance: No Impact

Alternative A8 B. Implementation of Alternative A8 B would involve the creation of habitat transition zones. Construction activities would last approximately 8 months. Approximately 190,000 cy of material would be transported to the project area from off-site locations. Construction activities would result in the temporary generation of emissions from earthmoving activities; exhaust from off-road equipment, material hauling, and worker commute activity; and other miscellaneous activities.

As shown in Table 3.13-10, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed the applicable de minimis thresholds for general conformity. Therefore, construction of Alternative A8 B would conform to the SIP.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-generated emissions would not exceed the thresholds of significance, Alternative A8 B would not conflict with the applicable air quality plan.

Table 3.13-10 Alternative A8 B Construction Emissions Summary

EMISSIONS	ROG	CO	NO_x	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	0.27	0.99	3.08	0.13	0.12	0.22	0.13
Construction (tons/year)	0.27	0.99	3.08	0.13	0.12	0.22	0.13
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	3.09	11.21	34.97	1.53	1.39	2.49	1.49
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:

Alternative A8 B construction assumed to occur over 8 months, 22 days/month.

See Appendix H for modeling input assumptions and output results.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. Project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative A8 B would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative B would be less than significant.

Alternative A8 B would generate minimal short-term construction emissions; therefore, it would have a less-than-significant impact.

Alternative A8 B Level of Significance: Less than Significant

Ravenswood Ponds

Alternative Ravenswood A (No Action). Under Alternative Ravenswood A (the No Action Alternative), no construction activities would occur within the Ravenswood pond cluster. While O&M activities would be ongoing, they are considered part of project operation, not project construction. As such, no construction-generated emissions would occur.

Long-term operational air pollutant emissions are evaluated in Phase 2 Impact 3.13-2.

Alternative Ravenswood A Level of Significance: No Impact

Alternative Ravenswood B. Implementation of Alternative Ravenswood B would involve levee modifications and improvements, creation of tidal habitat, installation of water control structures, creation of a habitat island, and construction of recreational facilities. Construction activities would last approximately 5 months. Approximately 37,900 cy of material would be transported from off-site locations. Construction activities would result in the temporary generation of emissions from earthmoving

activities; exhaust from off-road equipment, material hauling, and worker commute activity; and other miscellaneous activities.

As shown in Table 3.13-11, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed the applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Ravenswood B would conform to the SIP.

Table 3.13-11 Alternative Ravenswood B Construction Emissions Summary

EMISSIONS	ROG	CO	NO_x	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	0.16	0.68	1.72	0.07	0.07	0.09	0.07
Construction (tons/year)	0.16	0.68	1.72	0.07	0.07	0.09	0.07
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	2.82	12.28	31.19	1.33	1.21	1.65	1.24
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:

Alternative Ravenswood B construction assumed to occur over 5 months, 22 days/month.

See Appendix H for modeling input assumptions and output results.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-generated emissions would not exceed the thresholds of significance, Alternative Ravenswood B would not conflict with the applicable air quality plan.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. Project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative Ravenswood B would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative B would be less than significant.

Alternative Ravenswood B would generate minimal short-term construction emissions and would therefore have a less-than-significant impact.

Alternative Ravenswood B Level of Significance: Less than Significant

Alternative Ravenswood C. Implementation of Alternative Ravenswood C would involve levee modifications and improvements, creation of tidal habitat, installation of water control structures, creation of a habitat island, excavation of pilot channels, raising of pond bottoms, and construction of recreational

facilities. Construction activities would last approximately 7 months. Approximately 210,400 cy of material would be transported to the project area from off-site locations. Construction activities would result in the temporary generation of emissions from earthmoving activities; exhaust from off-road equipment, material hauling, and worker commute activity; and other miscellaneous activities.

As shown in Table 3.13-12, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Ravenswood C would conform to the SIP.

Table 3.13-12 Alternative Ravenswood C Construction Emissions Summary

EMISSIONS	ROG	CO	NO_x	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	0.31	1.31	3.57	0.15	0.14	0.21	0.15
Construction (tons/year)	0.31	1.31	3.57	0.15	0.14	0.21	0.15
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	4.09	17.03	46.30	1.99	1.80	2.77	1.89
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:
Alternative Ravenswood C construction assumed to occur over 7 months, 22 days/month.
See Appendix H for modeling input assumptions and output results.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-generated emissions would not exceed the thresholds of significance, Alternative Ravenswood C would not conflict with the applicable air quality plan.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. Project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative Ravenswood C would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative C would be less than significant.

Alternative Ravenswood C would generate minimal short-term construction emissions and would therefore have a less-than-significant impact.

Alternative Ravenswood C Level of Significance: Less than Significant

Alternative Ravenswood D. Implementation of Alternative Ravenswood D would involve levee modifications and improvements, installation of water control structures, and construction of recreational

facilities. Construction activities would last approximately 15 months. Because the designs for Alternative Ravenswood D plan for more cubic yards of material from cut activities than are required for fill activities, there would be a surplus of almost 15,000 cy of fill material on-site. This material could be used under Alternative D, and no net import of fill from off-site locations would be required. Construction activities would result in the temporary generation of emissions from earthmoving activities, exhaust from off-road equipment and worker commute activity, and other miscellaneous activities.

As shown in Table 3.13-13, construction-generated daily emissions of ROG, NO_x, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable regional significance thresholds. Annual emissions of ROG, CO, NO_x, and $PM_{2.5}$ would not exceed applicable de minimis thresholds for general conformity. Therefore, construction of Alternative Ravenswood D would conform to the SIP.

Table 3.13-13 Alternative Ravenswood D Construction Emissions Summary

EMISSION	ROG	CO	NO_x	PM_{10} (EXHAUST)	$PM_{2.5}$ (EXHAUST)	PM_{10} (TOTAL)	$PM_{2.5}$ (TOTAL)
Construction (total tons)	0.30	1.19	3.23	0.14	0.13	0.22	0.14
Construction (tons/year)	0.24	0.95	2.58	0.12	0.11	0.17	0.11
General conformity de minimis thresholds (tons/year)	50	100	100	—	—	—	100
Exceeds general conformity de minimis threshold?	No	No	No	—	—	—	No
Construction (lb/day)	1.81	7.22	19.55	0.87	0.80	1.31	0.84
BAAQMD thresholds (lb/day)	54	—	54	82	54	BMPs	BMPs
Exceeds BAAQMD threshold?	No	—	No	No	No	—	—

Notes:
Alternative Ravenswood D construction assumed to occur over 15 months, 22 days/month.
See Appendix H for modeling input assumptions and output results.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because construction-generated emissions would not exceed the thresholds of significance, Alternative Ravenswood D would not conflict with the applicable air quality plan.

Earthmoving activities would result in temporary construction fugitive dust emissions that have the potential to represent a significant impact with respect to air quality. Project design features include several dust control measures that would meet the BAAQMD's current Basic Construction Mitigation Measures Recommended for All Proposed Projects from the 2011 Guidelines.

Because construction activities associated with Alternative Ravenswood D would conform to the SIP, result in construction-generated emissions that would not exceed a significance threshold, not conflict with the applicable air quality plan, and include adequate fugitive dust control measures, the short-term construction-generated air pollutant emissions resulting from Alternative D would be less than significant.

Alternative Ravenswood D would generate minimal short-term construction emissions and would therefore have a less-than-significant impact.

Alternative Ravenswood D Level of Significance: Less than Significant

Phase 2 Impact 3.13-2: Potential long-term operational air pollutant emissions.

Alviso-Island Ponds

Alternative Island A (No Action). Alternative Island A (the No Action Alternative) would involve no new activities. The Island Ponds would continue to be monitored and managed through the activities described in the AMP and in accordance with current USFWS practices. The level of activity would be the same as the activities occurring under existing conditions and would not result in a change in emissions. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternative Island A would not conflict with the applicable air quality plan.

Alternative Island A Level of Significance: Less than Significant

Alternatives Island B and Island C (Action Alternatives). The following discussion addresses Alternatives Island B and Island C (Action Alternatives). Operations under the Action Alternatives would be similar to operations under Alternative Island A. Based on the above discussion, the level of operational activity would be similar to existing conditions and would not result in a change in emissions. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternatives Island B and Island C (Action Alternatives) would not conflict with the applicable air quality plan.

Island Action Alternatives Level of Significance: Less than Significant

Alviso-Mountain View Ponds

Alternative Mountain View A (No Action). Operations under Alternative Mountain View A (the No Action Alternative) would involve limited O&M activities, such as levee repair and maintenance, maintenance of existing trails, replacement of water control structures, and implementation of the AMP. Water in Charleston Slough would continue to supply the water system at Shoreline Park's sailing lake through the use of a pump. These activities would occur intermittently over the lifetime of the project. O&M activities would generate fugitive dust and other air emissions associated with the use of vehicles and other equipment. However, the level of activity would be the same as the O&M activities occurring under existing conditions and would not result in an increase in emissions compared to the existing O&M activities. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternative Mountain View A would not conflict with the applicable air quality plan.

Alternative Mountain View A Level of Significance: Less than Significant

Alternatives Mountain View B and Mountain View C (Action Alternatives). Under Alternatives Mountain View B and Mountain View C (Action Alternatives), operations would be similar to that

described for Alternative Mountain View A, but might actually decrease overall because of the reduced need to maintain levees. Based on the above discussion, the level of operational activity would be similar to existing conditions and would not result in a substantial increase in emissions compared to the existing operational activity. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternatives Mountain View B and Mountain View C (Action Alternatives) would not conflict with the applicable air quality plan.

Mountain View Action Alternatives Level of Significance: Less than Significant

Alviso-A8 Ponds

Alternative A8 A (No Action). Under Alternative A8 A (the No Action Alternative), operations would involve limited O&M activities, such as levee repair, replacement of water control structures, and implementation of the AMP. These activities would occur intermittently over the lifetime of the project. O&M activities would generate fugitive dust and other air emissions associated with the use of vehicles and other equipment. However, the level of activity would be the same as the O&M activities occurring under existing conditions and would not result in an increase in emissions compared to the existing operational activity. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternative A8 A would not conflict with the applicable air quality plan.

Alternative A8 A Level of Significance: Less than Significant

Alternative A8 B. Alternative A8 B would involve constructing habitat construction zones in Pond A8S. Once complete, operations under Alternative B would be similar to those described for Alternative A8 A. Based on the above discussion, the level of operational activity would be similar to that of existing conditions and would not result in an increase in emissions compared to the existing operational activity. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternative A8 B would not conflict with the applicable air quality plan.

Alternative A8 B Level of Significance: Less than Significant

Ravenswood Ponds

Alternative Ravenswood A (No Action). Under Alternative Ravenswood A (the No Action Alternative), operations would involve limited O&M activities, such as levee repair and implementation of the AMP. These activities would occur intermittently over the lifetime of the project. O&M activities would generate fugitive dust and other air emissions associated with the use of vehicles and other equipment. However, the level of activity would be the same as the O&M activities occurring under existing

conditions and would not result in an increase in emissions compared to existing operational activities. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternative Ravenswood A would not conflict with the applicable air quality plan.

Alternative Ravenswood A Level of Significance: Less than Significant

Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives). Under Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives), operations would be similar to those described for Alternative Ravenswood A, though with reduced need for levee maintenance and increased trail maintenance and operation of water control structures. Based on the above discussion, the overall level of operational activity would be similar to that of existing conditions and would not result in a substantial increase in emissions compared to emissions under existing operational activity. Therefore, the impact from long-term operational emissions would be less than significant.

According to the BAAQMD 2011 Guidelines, projects that would not result in significant impacts may be considered consistent with the applicable air quality plan. Because operational emissions would be less than significant, Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives) would not conflict with the applicable air quality plan.

Ravenswood Action Alternatives Level of Significance: Less than Significant

Phase 2 Impact 3.13-3: Potential exposure of sensitive receptors to TAC emissions.

Alviso-Island Ponds

Alternative Island A (No Action). Alternative Island A (the No Action Alternative) would not require construction activities within the ponds. O&M activities could require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent and occur intermittently over the lifetime of the project. As such, the potential for exposure of sensitive receptors to TAC emissions from use of diesel-powered equipment and vehicles would be less than significant.

Alternative Island A Level of Significance: Less than Significant

Alternatives Island B and Island C (Action Alternatives). Under Alternatives Island B and Island C (Action Alternatives), construction would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Sensitive receptors are approximately 8,000 feet east of the pond cluster. Because of the distance of the sensitive receptors and the temporary use of off-road construction equipment, short-term construction activities would not expose sensitive receptors to substantial TAC emissions. Soil disturbance during construction activities (including mass grading and excavation) may result in airborne entrainment of toxic contaminants in fugitive dust, and as such may expose workers and nearby sensitive receptors to potentially toxic air emissions, although the concentrations of these contaminants in fugitive dust emissions are not anticipated to reach levels that may present significant risks. Project design

features would include requirements for the preparation of a Health and Safety Plan to reduce the potential for workers and nearby residents to be exposed to airborne TACs.

O&M activities could require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent and occur intermittently over the lifetime of the project. Further, there are no sensitive receptors nearby. As such, potential exposure of sensitive receptors to TAC emissions during operations would not occur. Because of the distance to sensitive receptors, the limited duration of construction activities, the preparation of a Health and Safety Plan, and the intermittent nature of operational activities, impacts to sensitive receptors under Alternatives Island B and Island C (Action Alternatives) would be less than significant.

Island Action Alternatives Level of Significance: Less than Significant

Alviso-Mountain View Ponds

Alternative Mountain View A (No Action). Alternative Mountain View A (the No Action Alternative) would not require construction activities within the ponds. O&M activities could require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent and occur intermittently over the lifetime of the project. As such, the potential for exposure of sensitive receptors to TAC emissions from use of diesel-powered equipment and vehicles would be less than significant.

Alternative Mountain View A Level of Significance: Less than Significant

Alternatives Mountain View B and Mountain View C (Action Alternatives). Under Alternatives Mountain View B and Mountain View C (Action Alternatives), construction would result in short-term diesel exhaust emissions from on-site heavy duty equipment. Sensitive receptors are approximately 3,000 feet southwest of the pond cluster. Because of the distance of the sensitive receptors and the temporary use of off-road construction equipment, short-term construction activities would not expose sensitive receptors to substantial TAC emissions.

As described above in the impact discussion for Alternatives Island B and Island C, project design features would include requirements for the preparation of a Health and Safety Plan that would reduce the potential for workers and nearby residents to be exposed to airborne TACs entrained in fugitive dust during construction.

O&M activities would require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent, occur intermittently over the lifetime of the project, and not substantially differ from equipment use for existing O&M activities. As such, potential increases in exposure of sensitive receptors to TAC emissions during operations would not occur.

Because of the distance to sensitive receptors, the limited duration of construction activities, the preparation of a Health and Safety Plan, and the intermittent nature of operational activities, impacts to sensitive receptors under Alternatives Mountain View B and Mountain View C (Action Alternatives) would be less than significant.

Mountain View Action Alternatives Level of Significance: Less than Significant

Alviso-A8 Ponds

Alternative A8 A (No Action). Alternative A8 A (the No Action Alternative) would not require construction activities within the ponds. O&M activities would require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent and occur intermittently over the lifetime of the project. As such, the potential for exposure of sensitive receptors to TAC emissions from use of diesel-powered equipment and vehicles would be less than significant.

Alternative A8 A Level of Significance: Less than Significant

Alternative A8 B. Under Alternative A8 B, construction would result in short-term diesel exhaust emissions from on-site heavy-duty equipment used to construct the habitat transition zones. Sensitive receptors are approximately 600 feet east of the pond cluster. Construction activities within the project boundaries would occur at the southern portions of the pond cluster, which are over 1,500 feet from these receptors. BAAQMD guidance states that a site screening should be conducted to determine if the project would result in receptors being within 1,000 feet of a PM or TAC source. Because of the distance of the sensitive receptors from the construction activities and the temporary nature of the use of off-road construction equipment, short-term construction activities would not expose sensitive receptors to substantial TAC emissions.

As described in the impact discussion for Alternatives Island B and Island C, project design features would include requirements for the preparation of a Health and Safety Plan, which would reduce the potential for workers and nearby residents to be exposed to airborne TACs entrained in fugitive dust during construction.

O&M activities would require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent, occur intermittently over the lifetime of the project, and not substantially differ from existing O&M activities. As such, potential increases in exposure of sensitive receptors to TAC emissions during operations would not occur.

Because of the distance of the construction activities to sensitive receptors, the limited duration of construction activities, the preparation of a Health and Safety Plan, and the intermittent nature of operational activities, impacts to sensitive receptors under Alternative A8 B would be less than significant.

Alternative A8 B Level of Significance: Less than Significant

Ravenswood Ponds

Alternative Ravenswood A (No Action). Alternative Ravenswood A (the No Action Alternative) would not require construction activities within the ponds. O&M activities would require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent and occur intermittently over the lifetime of the project. As such, the potential for exposure of sensitive receptors to TAC emissions from use of diesel-powered equipment and vehicles would be less than significant.

Alternative Ravenswood A Level of Significance: Less than Significant

Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives). The following discussion addresses Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives). Construction under these alternatives would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Sensitive receptors are approximately 1,000 feet southwest of the pond cluster boundary. BAAQMD recommends that a site screening should be conducted to determine if the project would result in receptors being within 1,000 feet of a PM or TAC source. Construction would occur throughout the 625-acre pond cluster project site and many construction activities would be at distances much greater than 1,000 feet from these receptors. A health risk screening analysis was performed to evaluate potential impacts on sensitive receptors from diesel PM emissions from construction activities. The screening analysis was performed using BAAQMD-recommended methodologies for air dispersion screening modeling and health risk calculations (BAAQMD 2012b). The analysis used the air dispersion screening model AERSCREEN, which conservatively evaluates worst-case meteorology conditions. Details of the screening health risk analysis can be found in Appendix H. This screening assessment indicated that risks from construction activities under Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives) would not exceed the BAAQMD health risk and hazard thresholds. Therefore, short-term construction activities would not expose sensitive receptors to substantial TAC emissions.

As described in the impact discussion for Alternatives Island B and Island C, project design features would include requirements for the preparation of a Health and Safety Plan, which would reduce the potential for workers and nearby residents to be exposed to airborne TACs entrained in fugitive dust during construction.

O&M activities would require the use of diesel-powered equipment and vehicles that have the potential to generate TAC emissions. However, the use of this equipment would be limited in extent, occur intermittently over the lifetime of the project, and not substantially differ from existing O&M activities. As such, potential increased exposure of sensitive receptors to TAC emissions during operations would not occur.

Based on the results of the health risk screening analysis for construction emissions, the preparation of a Health and Safety Plan, and the intermittent nature of operational activities, impacts to sensitive receptors from Alternatives Ravenswood B, Ravenswood C, and Ravenswood D (Action Alternatives) would be less than significant.

Ravenswood Action Alternatives Level of Significance: Less than Significant

Phase 2 Impact 3.13-4: Potential odor emissions.

Odors can occur in the existing ponds in two ways. First, algae and other biomass that naturally grow in the ponds can accumulate in certain areas of the ponds. As the algae naturally decompose, H_2S gas can be produced, generating odors. Warm weather and lack of wind can accelerate the decomposition in the ponds and aggravate the odorous condition. Second, odors can develop as the ponds dry and the mud bottoms are exposed to air, especially in hot weather. These odors are caused by the exposure of algae or brine shrimp that are found in some of the salt ponds.

The occurrence of an odor depends to a large part on the number of degree-cooling days that occur in summer months. The potential for odor-related impacts is also dependent on prevailing winds and the proximity and location of downwind receptors. Although offensive odors rarely cause any physical harm,

they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Alviso-Island Ponds

Alternative Island A (No Action). Under Alternative Island A (the No Action Alternative), no construction activities would occur and O&M activities would be limited. This alternative would be a continuation of existing conditions—that is, no new activities would occur at the pond cluster. Ponds would be expected to continue transitioning toward tidal marsh, which is not anticipated to substantially change pond conditions that affect the potential for odors. As such, the potential for odors under this alternative would not change from that under existing conditions and would result in a less-than-significant impact.

Alternative Island A Level of Significance: Less than Significant

Alternative Island B. Construction under Alternative Island B would result in diesel emissions from the exhaust of on-site equipment, which may be odorous. Such emissions would be intermittent and would dissipate rapidly from the source. Also, mobile diesel-powered equipment would only be present on-site temporarily during construction activities. As such, construction would not create objectionable odors affecting a substantial number or people. This impact would be less than significant.

After construction activities are completed, Ponds A19 and A20 would receive additional tidal action than occurs under existing conditions. Under Alternative Island B, ponds would be expected to continue transitioning toward tidal marsh, which is not anticipated to substantially change pond conditions that affect the potential for odors. The potential for odors is expected to continue with Alternative B , but it would not result in the creation of new odors affecting a substantial number of people and would thus result in a less than significant impact.

Alternative Island B Level of Significance: Less than Significant

Alternative Island C. Alternative Island C is similar to Alternative Island B with the exception that Alternative C would also increase tidal activity in Pond A21. Under Alternative C, ponds would be expected to continue to transition to tidal marsh, which is not anticipated to substantially change pond conditions that affect the potential for odors. Thus, as with Alternative Island B, Alternative C would result in a less-than-significant impact.

Alternative Island C Level of Significance: Less than Significant

Alviso-Mountain View Ponds

Alternative Mountain View A (No Action). Under Alternative Mountain View A (the No Action Alternative), no construction activities would occur and O&M activities would be limited. Alternative A would be a continuation of existing conditions. Alternative A would not result in changes to pond conditions that would affect the potential for odor. As such, the potential for odors is expected to continue with Alternative A, and no new activity would occur that would create objectionable odors. As such, the potential for odors under Alternative A would not change from under existing conditions and would result in a less-than-significant impact.

Alternative Mountain View A Level of Significance: Less than Significant

Alternative Mountain View B. Diesel exhaust from on-site equipment during construction may be odorous, but emissions would be intermittent and would dissipate rapidly from the source, resulting in less-than-significant impacts.

Under Alternative Mountain View B, Ponds A1 and A2W would be reconfigured, and the tide would circulate within them such that stagnation of the ponds would not occur. As such, odors from these ponds would decrease compared to existing condition. Alternative B would not result in changes to Charleston Slough, and the potential for odors to be generated at Charleston Slough would not change compared to the potential under existing conditions. As such, potential odor impacts to sensitive receptors would be less than significant.

Alternative Mountain View B Level of Significance: Less than Significant

Alternative Mountain View C. Alternative Mountain View C is similar to Alternative Mountain View B in terms of odor effects. Under Alternative C, Charleston Slough would also transition to a tidal marsh. Similar to Alternative B, the increase in tidal flushing in the pond cluster would result in a decrease in odor compared to existing conditions. As such, potential odor impacts to sensitive receptors would be less than significant.

Alternative Mountain View C Level of Significance: Less than Significant

Alviso-A8 Ponds

Alternative A8 A (No Action). Under Alternative A8 A (the No Action Alternative), no construction activities would occur, and O&M activities would not change from the existing condition. Alternative A would not result in changes to pond conditions that would affect the potential for odor. The potential for odors is expected to be unchanged with Alternative A, and the impact would be less than significant because odor effects would not be different from those under existing conditions.

Alternative A8 A Level of Significance: Less than Significant

Alternative A8 B. Diesel exhaust from on-site equipment during construction may be odorous, but emissions would be intermittent and would dissipate rapidly from the source, resulting in a less-than-significant impact.

Alternative A8 B would not result in changes to pond conditions that would affect the potential for odor. The potential for odors is expected to continue with Alternative B, but the impact would be less than significant because odor effects would be similar to those under existing conditions. Potential odor impacts to sensitive receptors would be less than significant.

Alternative A8 B Level of Significance: Less than Significant

Ravenswood Ponds

Alternative Ravenswood A (No Action). Under Alternative Ravenswood A (the No Action Alternative), no construction activities would occur and O&M activities would be limited. Alternative B would be a continuation of existing conditions, that is, continued operation of the ponds. Alternative B would not result in changes to pond conditions that would affect the potential for odor. The potential for odors is expected to be unchanged with Alternative A, but the impact would be less than significant because odor effects would not be different from existing conditions.

Alternative Ravenswood A Level of Significance: Less than Significant

Alternative Ravenswood B. Diesel exhaust from on-site equipment during the construction of Alternative Ravenswood B may be odorous, but emissions would be intermittent and would dissipate rapidly from the source, resulting in less-than-significant impacts.

Under Alternative Ravenswood B, Ponds R4, R5 and S5 would have increased circulation over the baseline condition, such that stagnation or seasonal drying of the ponds would not occur. This increase in water circulation would be expected to decrease the potential for odors over time. There is some potential for dissolved oxygen problems and related odors in Ponds R5 and S5; however, active monitoring and management would allow water to be circulated through these ponds as needed to avoid the effects. Pond R3 would not be changed from its current condition. Because of the increased circulation of water in most of the pond cluster, potential odor impacts to sensitive receptors would be less than significant.

Alternative Ravenswood B Level of Significance: Less than Significant

Alternative Ravenswood C. Alternative Ravenswood C is similar to Alternative Ravenswood B in terms of potential odor impacts. However, the operation of Ponds R5 and S5 as intertidal mudflat would avoid the odors associated with low dissolved oxygen there. Further, in Pond R3, the ability to increase water circulation would be improved and the potential of odors resulting from stagnation or pond drying would be reduced. As such, potential odor impacts to sensitive receptors under this alternative would be less than significant.

Alternative Ravenswood C Level of Significance: Less than Significant

Alternative Ravenswood D. Alternative Ravenswood D is similar to Alternative Ravenswood B in terms of odor effects. Adequate water circulation would be expected to decrease the potential for odors. As such, potential odor impacts to sensitive receptors would be less than significant.

Alternative Ravenswood D Level of Significance: Less than Significant

Impact Summary

Phase 2 impacts and levels of significance are summarized in Table 3.13-14. The levels of significance are those remaining after implementation of program-level mitigation measures, project-level design features, the AMP, and other Don Edwards San Francisco Bay National Wildlife Refuge management practices and documents. The air quality analysis required no project-level mitigation measures to reduce the impacts to a level that was less than significant.

Table 3.13-14 Phase 2 Summary of Impacts – Air Quality

IMPACT	ALTERNATIVE											
	ISLAND			MOUNTAIN VIEW			A8		RAVENSWOOD			
	A	B	C	A	B	C	A	B	A	B	C	D
Phase 2 Impact 3.13-1: Short-term construction-generated air pollutant emissions.	NI	LTS	LTS	NI	LTS	LTS	NI	LTS	NI	LTS	LTS	LTS
Phase 2 Impact 3.13-2: Potential long-term operational air pollutant emissions.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Phase 2 Impact 3.13-3: Potential exposure of sensitive receptors to TAC emissions.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
Phase 2 Impact 3.13-4: Potential odor emissions.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS

Notes:

Alternative A at each pond cluster is the No Action (No Project Alternative under CEQA).

LTS = Less than Significant

NI = No Impact

This page intentionally left blank