4.2 AIR QUALITY

The following section describes the existing air quality setting in San Luis Obispo County and the potential short-term and long-term air quality impacts associated with development of the proposed project. Short-term construction emissions would result from grading and construction operations, transport of materials, and construction-related vehicle emissions. Long-term operational emissions would result from vehicle emissions, and operation and maintenance of proposed structures and facilities.

4.2.1 Existing Conditions

San Luis Obispo County constitutes a land area of approximately 3,316 square miles with varied vegetation, topography, and climate. From a geographical and meteorological standpoint, the county can be divided into three general regions: the Coastal Plateau, the Upper Salinas River Valley, and the East County Plain. Air quality in each of these regions is characteristically different, although the physical features that divide them provide only limited barriers to the transport of pollutants between regions. The proposed project is located within the Coastal Plateau. Motor vehicles are the primary source of long-term emissions (San Luis Obispo County Air Pollution Control District [SLOAPCD] 2012b). Approximately 75% of the county population and a corresponding portion of the commercial and industrial facilities are located within the Coastal Plateau. Due to higher population density and closer spacing of urban areas, emissions of air pollutants per unit area are generally higher in this region than in other regions of the county.

4.2.1.1 San Luis Obispo County Air Quality Monitoring

The county's air quality is measured by multiple ambient air quality monitoring stations, including one within Nipomo Community Park, approximately 1.5 miles east of the project site. There are four permanent stations operated by the SLOAPCD, two state-operated permanent stations, two special stations, and one station operated by Tosco Oil Refinery for monitoring sulfur dioxide (SO_2) emissions. Air quality monitoring is rigorously controlled by federal and state quality assurance and control procedures to ensure data validity. Gaseous pollutant levels are measured continuously and averaged each hour, 24 hours a day. Particulate matter is monitored in two ways: PM_{10} (inhalable particulate matter 10 microns or less in size) and $PM_{2.5}$ (inhalable particulate matter 2.5 microns or less in size). Particulate pollutants are generally sampled by filter techniques for averaging periods of 3 to 24 hours. PM_{10} and $PM_{2.5}$ are sampled for 24 hours every sixth day on the same schedule nationwide.

4.2.1.2 San Luis Obispo County Existing Air Quality

The significance of a given pollutant can be evaluated by comparing its atmospheric concentration to state and federal air quality standards. These standards represent allowable atmospheric contaminant concentrations at which the public health and welfare are protected, and include a factor of safety. In San Luis Obispo County, ozone and fine particulate are the pollutants of main concern, since exceedances of state health-based standards for those pollutants are experienced in some areas of the county.

<u>San Luis Obispo County Attainment Status</u>

Table 4.2-1 summarizes the attainment status in San Luis Obispo County for the major criteria pollutants. The county is designated as a non-attainment area for the state ozone and PM_{10} standards.

Table 4.2-1. San Luis Obispo County Attainment Status

Pollutant	Averaging Time	California Standards*		Federal Standards*	
		Concentration*	Attainment Status	Concentration	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Non-Attainment	--	Non-Attainment Eastern SLO County – Attainment Western SLO County***
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Non-Attainment	150 µg/m^3	Unclassified*/ Attainment
	Annual Arithmetic Mean	20 µg/m^3		--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No State Standard	Attainment	35 µg/m^3	Unclassified*/ Attainment
	Annual Arithmetic Mean	12 µg/m^3		15.0 µg/m^3	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Unclassified*
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Unclassified*
	1 Hour	0.18 ppm (330 µg/m^3)		--	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	Attainment	0.030 ppm (80 µg/m^3)	Unclassified*
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	
	3 Hour	--		0.5 ppm (1300 µg/m^3)**	
	1 Hour	0.25 ppm (655 µg/m^3)		--	
Lead*	30 Day Average	1.5 µg/m^3	Attainment	--	No Attainment Information
	Calendar Quarter	--		1.5 µg/m^3	
	Rolling 3-month Average*	--		0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.	Attainment	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Attainment		
Vinyl Chloride*	24 Hour	0.01 ppm (26 µg/m^3)	No Attainment Information		

* Unclassified (EPA/Federal definition): Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for that pollutant.
** Secondary Standard
*** San Luis Obispo County has been designated non-attainment east of the -120.4 deg Longitude line, in areas of SLO County that are south of 35.45 degrees, and east of the -120.3 degree Longitude line, in areas of SLO County that are north of latitude 35.45 degrees. Map of non-attainment area is available upon request from the APCD.

Source: SLOAPCD 2012c

4.2.1.3 Greenhouse Gas Emissions and Climate Change

Climate change refers to any significant change in measures of climate such as temperature, precipitation, or wind, lasting for decades or longer (U.S. Environmental Protection Agency [EPA] 2007). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); or,
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification, etc.).

Human activities, such as fossil fuel combustion and land use changes release carbon dioxide (CO_2) and other compounds, cumulatively termed GHG emissions. GHGs are effective in trapping infra-red radiation which otherwise would have escaped the atmosphere, thereby warming the atmosphere, the oceans, and earth's surface (EPA 2007).

GHGs are any gas that absorbs infrared radiation in the atmosphere (EPA 2007). GHGs, as defined in Assembly Bill (AB) 32, include the following gases: CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). A brief summary of each GHG is summarized below (EPA 2007).

A series of reports issued by the United Nations Intergovernmental Panel on Climate Change (UNIPCC) have synthesized recent scientific studies of climate change (UNIPCC 2007a, 2007b, 2000c). Key findings of these reports include the following:

- Global atmospheric concentrations of CO_2, CH_4, and N_2O have increased markedly as a result of human activities since 1750, and now are at about double pre-industrial levels. Global increases in CO_2 concentration are due primarily to fossil fuel use and land use change, and global increases in CH_4 and N_2O are due primarily to agriculture.
- Warming of the global climate due to GHGs is unequivocal, as evidenced by increases in air and water temperatures, widespread melting of snow and ice, and rising global average sea level. Most of the increase in global average temperatures since the mid-20th century is very likely due to increases in GHGs from human activities. GHG emissions increased 70% between 1970 and 2004.
- Numerous long-term climate changes observed have included changes in arctic temperatures and ice, precipitation, ocean salinity, wind pattern, and the frequency of extreme weather events such as droughts, heavy precipitation, heat waves, and tropical cyclone intensity.

- Continued GHG emissions at current rates would cause further warming and climate change during the 21st century that would very likely be larger than that observed in the 20th century.

- Climate change is expected to have adverse impacts on water resources, ecosystems, food and forest products, coastal systems and low-lying areas, urban areas, and public health. These impacts will vary regionally, and may be very expensive for agriculture and human activities. In some areas sea level rise may completely inundate now inhabited areas (e.g., river deltas, Pacific Islands).

In California, the main sources of GHG emissions are from the transportation and energy sectors. According to the California Air Resources Board (CARB) draft GHG emission inventory for the year 2004, 39% of GHG emissions result from transportation and 25% of GHG emissions result from electricity generation. California produced 497 million metric tons of CO_2 equivalent ($MMtCO_2e$) in 2004 (CARB 2007). California produces about 2% of the world's GHG emissions, with about 0.55% of the population.

The potential effects of future climate change on California resources include:

- Air temperature: Increases of 3 to 10.4 degrees Fahrenheit (ºF) by the end of the century, depending on aggressiveness of GHG emissions mitigation.

- Sea level rise: 6 to 30 inches by the end of the century, depending on aggressiveness of GHG emissions mitigation.

- Water resources: Reduced Sierra snowpack, reduced water supplies, increased water demands, changed flood hydrology.

- Forests: Changed forest composition, geographic range, and forest health and productivity; increased destructive wild fires.

- Ecosystems: Changed habitats, increased threats to certain endangered species.

- Agriculture: Changed crop yields, increased irrigation demands, increased impacts from tropospheric ozone.

- Public health: Increased smog and commensurate respiratory illness and weather-related mortality (California Climate Change Portal [CCCP] 2007).

4.2.2 Regulatory Setting

4.2.2.1 Federal Policies and Regulations

Air quality protection at the national level is provided through the Clean Air Act (CAA), enacted in 1970 and significantly amended in 1990. These amendments represent the fifth major effort by the U.S. Congress to improve air quality. The federal CAA is generally less stringent than the California Clean Air Act. However, unlike the California law, the CAA set statutory deadlines for attaining federal standards. The 1990 amendments added several new sections to the law, including requirements for the control of toxic air contaminants, reductions in pollutants responsible for acid deposition, development of a national strategy for stratospheric ozone and global climate protection, and requirements for a national permitting system for major pollution sources.

4.2.2.2 State Policies and Regulations

The California Clean Air Act (CCAA) was signed into law in September of 1988. It requires all areas of the state to achieve and maintain the California ambient air quality standards by the earliest practicable date. These standards are generally more stringent than the federal standards; thus, emission controls to comply with the state law are typically more stringent than necessary for attainment of the federal standards. The CCAA requires that all Air Pollution Control Districts adopt and enforce regulations to achieve and maintain the state ambient air quality standards for the area under its jurisdiction. Pursuant to the requirements of the law, the SLOAPCD adopted a Clean Air Plan (CAP) for its jurisdiction in 2001.

The California Global Warming Solutions Act of 2006 (AB 32, Health and Safety Code §38500 et seq.) requires the CARB to design and implement emission limits, regulations, and other measures. These will reduce, by 2020, statewide GHG emissions in a technologically feasible and cost-effective manner to 1990 levels (representing a 25% reduction). The following summarizes the process and schedule for implementing AB 32:

- June 30, 2007: CARB publishes a list of discrete early action GHG emission reduction measures that can be implemented prior to the measures and limits to be adopted to meet the 2020 limit.
- September 7, 2007: CARB released a list of additional early action measures and discrete early actions.
- January 1, 2008: CARB determines what the statewide GHG emissions level was in 1990 and approves a statewide GHG limit that is equivalent to that level.
- January 1, 2008: CARB adopts regulations requiring the reporting and verification of statewide GHG emissions.
- January 1, 2009: CARB adopts a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020.
- January 1, 2010: CARB adopts and enforces regulations to implement the GHG emission reduction measures identified on the early action list in 2007.
- January 1, 2011: CARB adopts regulations to achieve the required reduction of GHG emissions to 1990 levels by 2020.
- January 1, 2012: GHG emission limits and emission reduction measures adopted by January 1, 2011, become enforceable.

Senate Bill (SB) 1368 (Public Utilities Code §8340 et seq.) is an AB 32 companion bill that was signed into law in 2006. It requires the California Public Utilities Commission (CPUC) to establish a GHG performance standard for base load generation from investor-owned utilities, and the California Energy Commission (CEC) to establish a similar standard for publicly-owned utilities. These standards may not exceed the GHG emission rate from a base load combined-cycle natural gas fired plant. The bill also requires all imported electricity provided to California to be generated from plants meeting CPUC and CEC standards.

By enacting SB 97 in 2007, California's lawmakers expressly recognized the need to analyze GHG emissions as a part of the CEQA process. SB 97 required the California Office of Planning and Research to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of GHG emissions. Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects, and must reach a conclusion regarding the significance of those emissions. (See CEQA Guidelines §15064.4.)

- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions. (See CEQA Guidelines §15126.4(c).)

- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change. (See CEQA Guidelines §15126.2(a).)

- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria. (See CEQA Guidelines §15183.5(b).)

- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives. (See CEQA Guidelines, Appendix F.)

As part of the administrative rulemaking process, the Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. Other rulemaking documents can be accessed on the Natural Resources Agency's rulemaking website (http://ceres.ca.gov/ceqa/guidelines/). The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010 (State of California 2011).

4.2.2.3 Local Policies and Regulations

The 2001 CAP is a comprehensive planning document intended to provide guidance to the SLOAPCD and other local agencies, including the County, on how to attain and maintain the state standards for ozone and PM_{10}. The CAP presents a detailed description of the sources and pollutants which impact the jurisdiction, future air quality impacts to be expected under current growth trends, and an appropriate control strategy for reducing ozone precursor emissions, thereby improving air quality.

Local efforts to quantify and reduce GHG emissions have primarily been undertaken by the SLOAPCD. Many of the programs currently implemented by SLOAPCD to reduce emissions and exposure to criteria and toxic air pollutants may also reduce GHG emissions. The following is a brief summary of these programs:

- Rules and Regulations: Numerous rules adopted by the County Board of Supervisors and implemented by SLOAPCD to address criteria pollutant emissions also have the side benefit of reducing GHGs. For instance, several SLOAPCD rules address conventional emissions from combustion sources such as boilers, heaters, and engines

that often result in equipment modifications or replacement that improves the energy efficiency of those units and reduces fossil fuel use. Similarly, rules that regulate or prohibit open burning activities reduce CO_2 emissions from that activity. SLOAPCD Rule 426 regulates landfill emissions of methane.

- Clean Fuels: SLOAPCD is actively involved in and supports the efforts of the Central Coast Clean Cities Coalition (C5), a local nonprofit coalition which promotes the use of cleaner alternative fuel technologies. With over 40% of the GHG emissions coming from mobile sources, these efforts are an essential tool in reducing fossil fuel use and associated CO_2 emissions.

- Development Review: Through the CEQA review process, SLOAPCD evaluates impacts from land use development projects and recommends measures to reduce emissions. Mitigation measures focus on reducing emissions from motor vehicles and improving energy efficiency, both of which directly reduce criteria pollutants and GHGs. Such strategies include incorporation of energy efficiency measures (increased insulation, high efficiency appliances and lighting, passive and active solar systems, etc.) that go beyond current building standards, and including Smart Growth principles into the project design to reduce vehicle trips and increase the viability of alternative transportation.

- Grant Programs: Many emission reduction projects funded through the various grant programs administered by SLOAPCD result in replacement or retrofit of older, high emission engines with cleaner and more efficient engines that simultaneously reduce fuel use, thus reducing CO_2 emissions. Conversion of stationary and mobile diesel engines to natural gas or electric motors also serves to reduce CO_2 emissions.

- Transportation Choices Program: In partnership with San Luis Obispo Regional Rideshare, Ride-On, and SLOAPCD, the Transportation Choices Program (TCP) is a free program offered to businesses and organizations throughout San Luis Obispo County to reduce employee and student commute trips and promote the use of alternative transportation.

- Pollution Prevention: The Pollution Prevention Program promotes the use of, and publicly recognizes small businesses which successfully employ, pollution prevention and emission reduction techniques as part of routine operating procedures. Many of the businesses so recognized have incorporated operational changes that reduce their emissions through efficiency improvements that also reduce fuel and product use and save energy.

- Public Outreach: SLOAPCD implements a number of outreach campaigns to promote a variety of clean air programs, including backyard burning reduction programs, clean car awareness, pollution prevention, energy efficiency, and transportation alternatives, all of which promote community consciousness and lifestyle choices that can help reduce our impacts on climate change.

The County has prepared an EnergyWise Plan (Climate Action Plan) – Designing Energy and Climate Solutions for the Future. This plan identifies strategies to reduce the county's GHG emissions by 15% below the baseline year of 2006 by the year 2020. This goal is consistent with AB 32. The plan includes the following:

- Scientific and regulatory framework for addressing climate change and GHGs at the local level.
- Identifies sources of GHG emissions from sources within the unincorporated county and estimates how these emissions may change over time.
- Forecasts emissions to reflect the County's desired growth projections without regulatory or technical intervention to reduce GHG emissions and provides an emissions reduction target consistent with AB 32 and the County's General Plan.
- Provides energy use, transportation, land use, water use, and solid waste strategies to reduce San Luis Obispo County's GHG emissions and quantifies the potential emissions reductions that will be achieved by implementing each strategy.
- Identifies existing and proposed strategies to reduce emissions from County operations and facilities.
- Addresses adaptation to climate change – climate adaptation is an adjustment in natural or human systems in response to actual or expected climatic change and its effects.
- Presents an implementation program to assist with monitoring and prioritization of the reduction strategies through 2020.

4.2.3 Thresholds of Significance

The significance of potential air quality impacts is based on thresholds identified within Appendix G of the CEQA Guidelines, the San Luis Obispo County Initial Study Checklist, and standards established within the SLOAPCD CEQA Air Quality Handbook (2012b). The specifics of these guidelines are defined below.

4.2.3.1 County of San Luis Obispo

The significance of potential impacts is based on thresholds identified within Appendix G of the CEQA Guidelines and the County Initial Study Checklist, which provide the following thresholds for determining impact significance with respect to air quality and climate change. Impacts would be considered significant if the proposed project would:

a. Violate any state or federal ambient air quality standard, or exceed air quality emission thresholds as established by the SLOAPCD;
b. Expose any sensitive receptor to substantial air pollutant concentrations.
c. Create or subject individuals to objectionable odors.
d. Be inconsistent with the District's Clean Air Plan.
e. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
f. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

4.2.3.2 SLOAPCD CEQA Air Quality Handbook

The SLOAPCD has developed the 2012 CEQA Air Quality Handbook to assist lead agencies, planning consultants, and project proponents in assessing the potential air quality impacts from residential, commercial and industrial development. The CEQA Handbook defines the criteria used by the SLOAPCD to determine when an air quality analysis is necessary, the type of analysis that should be performed, the significance of the impacts predicted by the analysis, and the mitigation measures needed to reduce the overall air quality impacts. According to the CEQA Handbook, project impacts may also be considered significant if one or more of the following special conditions apply:

- If the project has the ability to emit hazardous or toxic air pollutants in the close proximity of sensitive receptors, such that an increased cancer risk affects the population;
- If the project has the potential to emit diesel particulate matter in an area of human exposure, even if overall emissions are low;
- If the project proposes remodeling or demolition operations where asbestos-containing materials will be encountered;
- If naturally occurring asbestos has been identified in the project area;
- If project has the ability to emit hazardous or toxic air pollutants in the close proximity of sensitive receptors, such as schools, churches, hospitals, etc.; or,
- If the project results in a nuisance odor problem to sensitive receptors.

<u>Significance of Short-term Construction Emissions</u>

Heavy equipment and earth-moving operations can generate construction dust and combustion emissions. These may have substantial temporary impacts on local air quality. Table 4.2-2 summarizes the level of construction-related emissions requiring mitigation.

Table 4.2-2. Thresholds of Significance for Construction Operations

Pollutant	Threshold		
	Daily (lbs)	Quarterly Tier 1 (tons)	Quarterly Tier 2 (tons)
Reactive Organic Gases (ROG) and Nitrates of Oxygen (NOx) (combined)	137	2.5	6.3
Diesel Particulate Matter (DPM)	7	0.13	0.32
Fugitive Particulate Matter (PM_{10}), Dust [(2)]	N/A	2.5	N/A
Greenhouse Gases (CO_2, CH_4, N_2O, HFC, CFC, F_6S)	Amortized and Combined with Operational Emissions (see below)		

1. Daily and quarterly emission thresholds are based on the California Health & Safety Code and CARB Carl Moyer Guidelines.
2. Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5-ton PM10 quarterly threshold.

Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2012b

Mitigation of construction activities is required when the emission thresholds are equaled or exceeded by fugitive and/or combustion emissions as follows:

Reactive Organic Gases (ROG) and Nitrates of Oxygen (NO_x) Emissions

- **Daily:** For construction projects expected to be completed in less than one quarter (90 days), exceedance of the 137 pounds per day (lbs/day) threshold requires Standard Mitigation Measures;

- **Quarterly – Tier 1:** For construction projects lasting more than one quarter, exceedance of the 2.5 tons per quarter (ton/qtr) threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment. If implementation of the Standard Mitigation and BACT measures cannot bring the project below the threshold, off-site mitigation may be necessary; and,

- **Quarterly – Tier 2:** For construction projects lasting more than one quarter, exceedance of the 6.3 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

Diesel Particulate Matter Emissions

- **Daily:** For construction projects expected to be completed in less than one quarter, exceedance of the 7 lbs/day threshold requires Standard Mitigation Measures;

- **Quarterly – Tier 1:** For construction projects lasting more than one quarter, exceedance of the 0.13 ton/qtr threshold requires Standard Mitigation Measures, and BACT for construction equipment; and,

- **Quarterly – Tier 2:** For construction projects lasting more than one quarter, exceedance of the 0.32 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

Fugitive Particulate Matter (PM10), Dust Emissions

- **Quarterly:** Exceedance of the 2.5 ton/qtr threshold requires Fugitive PM_{10} Mitigation Measures and may require the implementation of a CAMP.

Greenhouse Gas Emissions

- GHGs from construction projects must be quantified and amortized over the life of the project. The amortized construction emissions must be added to the annual average operational emissions and then compared to the operational thresholds in Section 3.5.1 of the Handbook – Significance Thresholds for Project-Level Operational Emissions. To amortize the emissions over the life of the project, calculate the total GHG emissions for the construction activities, divide it by the project life (i.e., 50 years for residential projects and 25 years for commercial projects), then add that number to the annual operational phase GHG emissions.

Special Conditions for Construction Activity

In addition to the construction air quality thresholds defined above, there are a number of special conditions, local regulations, or state and federal rules that apply to construction

activities. These conditions must be addressed in proposed construction activity and are summarized below.

Sensitive Receptors

The proximity of sensitive individuals (receptors) to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic diesel PM impacts and, if deemed necessary by the SLOAPCD, more aggressive implementation of mitigation measures than described below in the diesel idling section. Areas where sensitive receptors are most likely to spend time include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). The types of construction projects that typically require a more comprehensive evaluation include large-scale, long-term projects that occur within 1,000 feet of a sensitive receptor location(s).

Permits

Portable equipment and engines 50 horsepower (hp) or greater, used during construction activities will require California statewide portable equipment registration (issued by the CARB) or an Air Pollution Control District permit.

Significance of Long-term Operational Emissions

The threshold criteria established by the SLOAPCD to determine the significance and appropriate mitigation level for long-term operational emissions (i.e., vehicular and area source emissions) from a project are presented in Table 4.2-3, below. Emissions that equal or exceed the designated threshold levels are considered potentially significant and should be mitigated. As shown in the table, the level of analysis and mitigation recommended follows a tiered approach based on the overall amount of emissions generated by the project. For projects requiring air quality mitigation, the SLOAPCD has developed a list of both standard and discretionary mitigation strategies tailored to the type of project being proposed: residential, commercial, or industrial.

Table 4.2-3. Thresholds of Significance for Operational Emissions

Pollutant	Threshold[1]	
	Daily	Annual
Ozone Precursors (ROG+NOx)[2]	25 lbs/day	25 tons/year
Diesel Particulate Matter (DPM)[2]	1.25 lbs/day	n/a
Fugitive Particulate Matter (PM_{10}), Dust	25 lbs/day	25 tons/year
CO	550 lbs/day	n/a
Greenhouse Gases (CO_2, CH_4, N_2O, HFC, CFC, F_6S)	Consistency with a Qualified GHG Reduction Plan OR 1,150 metric tons of carbon dioxide equivalent (CO_2e)/year OR 4.9 CO_2e/service population/year (residents + employees)	

1. Daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, §40918, and the CARB Carl Moyer Guidelines for DPM.
2. CalEEMod – use winter operational emission data to compare to operational thresholds.

Source: County of San Luis Obispo, APCD CEQA Air Quality Handbook, 2012a, 2012b

Ozone Precursor Emissions

- If the project's ozone precursor emissions are below the APCD's **25 lbs/day** (combined ROG+NOx emissions) no ozone mitigation measures are necessary. The Lead Agency will prepare the appropriate, required environmental document(s).

- Projects that emit **25 lbs/day** or more of ozone precursors (ROG+NOx combined) have the potential to cause significant air quality impacts, and should be submitted to the SLOAPCD for review. On-site mitigation measures, following the guidelines in §3.7 of the CEQA Air Quality Handbook (*Operational Emission Mitigation*), are recommended to reduce air quality impacts to a level of insignificance.

  If all feasible mitigation measures are incorporated into the project and emissions can be reduced to less than 25 lbs/day, then the Lead Agency will prepare the appropriate, required environmental document(s).

  If all feasible mitigation measures are incorporated into the project and emissions are still greater than 25 lbs/day, then an EIR should be prepared. Additional mitigation measures, including off-site mitigation, may be required depending on the level and scope of air quality impacts identified in the EIR.

- Projects which emit **25 tons/year** or more of ozone precursor (ROG+NOx combined), require the preparation of an EIR. Depending upon the level and scope of air quality impacts identified in the EIR, mitigation measures, including off-site mitigation, may be required to reduce the overall air quality impacts of the project to a level of insignificance.

Diesel Particulate Matter Emissions

Diesel particulate matter (DPM) is seldom emitted from individual projects in quantities, which lead to local or regional air quality attainment violations. DPM is, however, a toxic air contaminant and carcinogen, and exposure to DPM may lead to increased cancer risk and respiratory problems. Certain industrial and commercial projects may emit substantial quantities of DPM through the use of stationary and mobile on-site diesel-powered equipment as well diesel trucks and other vehicles that serve the project.

Projects that emit more than **1.25 lbs/day** of DPM need to implement on-site BACT measures. If sensitive receptors are within 1,000 feet of the project site, a Health Risk Assessment (HRA) may also be required.

Fugitive Particulate Matter (Dust) Emissions

Projects which emit more than **25 lbs/day** or **25 tons/year** of fugitive particulate matter need to implement permanent dust control measures to mitigate the emissions below these thresholds or provide suitable off-site mitigation approved by the APCD. Operational fugitive dust emissions from a proposed project are calculated using the California Emissions Estimator Model (CalEEMod) model discussed in §3.6.1 of the CEQA Handbook. Typical sources of operational emissions included the following:

- **Paved roadways:** Vehicular traffic on paved roads that are used to accesses large residential, commercial, or industrial projects can generate significant dust emissions.

- **Off- and/or on-site unpaved roads or surfaces:** Even at low traffic volume, vehicular traffic on unpaved roads or surfaces that are used to accesses residential, commercial, or industrial operations or that accesses special events, etc., can generate significant dust emissions.

- **Industrial and/or commercial operations:** Certain industrial operations can generate significant dust emissions associated with vehicular access, commercial or industrial activities.

Any of the above referenced land uses or activities can result in dust emissions that exceed the SLOAPCD significance thresholds, cause violations of an air quality standard, or create a nuisance impact in violation of SLOAPCD Rule 402 *Nuisance*. In all cases where such impacts are predicted, appropriate fugitive dust mitigation measures shall be implemented.

Carbon Monoxide Emissions

Carbon monoxide (CO) is a colorless, odorless, tasteless gas emitted during combustion of carbon-based fuels. While few land use projects result in high emissions of CO, this pollutant is of particular concern when emitted into partially or completely enclosed spaces such as parking structures and garages. Projects that emit more than 550 lbs/day of carbon monoxide (CO) and occur in a confined or semi-confined space (e.g., parking garage or enclosed indoor stadium) must be modeled to determine their significance. In confined or semi-confined spaces where vehicle activity occurs, CO modeling is required. If modeling shows the potential to violate the state CO air quality standard, mitigation or project redesign is required to reduce CO concentrations to a level below the health-based standard.

Greenhouse Gas Emissions

GHGs from all projects subject to CEQA must be quantified and mitigated to the extent feasible. The thresholds of significance for a project's amortized construction plus operational-related GHG emissions are:

- For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy; OR annual emissions less than 1,150 metric tons per year (MT/yr) of carbon dioxide equivalent (CO_2e); OR 4.9 MT CO_2e/service population (SP)/year (residents + employees). Land use development projects include residential, commercial and public land uses and facilities. Lead agencies may use any of the three options above to determine the significance of a project's GHG emission impact to a level of certainty.

- For stationary-source projects, the threshold is 10,000 MT/yr of CO_2e. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an APCD permit to operate.

The APCD's GHG threshold is defined in terms of CO_2e, a metric that accounts for the emissions from various greenhouse gases based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the proposal project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

Guidelines for Applying ROG, NO_x and PM_{10} Mitigation Measures

In general, projects that do not exceed the 25 lbs/day ROG+NOx threshold do not require mitigation. For projects that exceed this threshold, the SLOAPCD has developed a list of mitigation strategies for residential, commercial, and industrial projects. The project proponent may suggest alternate mitigation measures if the APCD-suggested measures are not feasible.

The recommended standard air quality mitigation measures have been separated according to land use (i.e., residential, commercial and industrial), measure type (i.e., site design, energy efficiency and transportation) and pollutant reduced (i.e., ozone, particulate matter, DPM, and GHGs). Any residential, commercial, or industrial project generating 25 lbs/day or more of ROG+NO_x or PM_{10} should select the applicable number of mitigation measure as outlined below from Table 3-5 of the CEQA Air Quality Handbook (2012) to reduce the air quality impacts from the project below the significance thresholds.

4.2.4 Impact Assessment and Methodology

In the course of preparing the Initial Study for this project (April 2012), potential air quality emissions were estimated through the use of the URBan EMISsions (URBEMIS) (version 9.2.4) air quality modeling program. Based on consultation with SLOACPD, the air emission modeling was updated using CalEEMod (refer to Appendix B for output data sheets). Although the timing of development phases is currently unknown, the total area of disturbance was used to model a reasonable “worst case scenario” for air emissions. These emission estimates have been compared to the thresholds described above to determine the nature and extent of potential adverse air quality impacts. The project components were also reviewed to identify whether or not SLOAPCD regulations regarding issues such as developmental burning and disturbance of naturally-occurring asbestos, among others, are relevant. Finally, the proposed project was evaluated for consistency with the County’s CAP.

4.2.5 Project Specific Impacts and Mitigation Measures

4.2.5.1 Land Use Ordinance Amendment

The proposed amendments do not include language that would have an adverse effect to air quality, aside from project-specific emissions (refer to discussion below). The proposed amendments do not include a change in the land use category, allowable uses, or density of uses. The clarifications would not result in growth inducing effects or a change in land use patterns inconsistent with the adopted CAP.

In order to ensure that future projects, such as the proposed Master Plan and CUP, address project-specific air quality impacts, a planning area standard is recommended that requires the project applicant to quantify air and greenhouse gas emissions and incorporate mitigation into the project (refer to Chapter 4, Environmental Impacts Analysis, Exhibit A).

4.2.5.2 Conditional Use Permit

The proposed project would result in both short-term construction-related impacts and long-term operational impacts. Grading and construction activities would result in the creation of construction dust, as well as short-term construction vehicle emissions. Fugitive dust emissions would result from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic. Combustion emissions, such as NO_x and DPM, are most significant when using large diesel fueled scrapers, loaders, dozers, haul trucks, compressors, generators, and other types of equipment. Operational impacts would include increased vehicle traffic and area

source emissions from various project components. Construction-related and operational emissions are analyzed separately under each threshold below.

4.2.5.3 Violate Ambient Air Quality Standards, or Exceed SLOAPCD Air Quality Emission Thresholds

Construction-Related Emissions

As proposed, the project would result in the disturbance of approximately 8.3 acres. Disturbance would occur in phases, as development can be funded and implemented. While the timing of development phases is currently unknown, a reasonable "worst-case scenario" for construction-related air emissions was generated using CalEEMod (including daily, quarterly, and annual emissions). Table 4.2-4 below identifies the potential emissions, prior to implementation of default mitigation options identified in CalEEMod. Estimated emissions after implementation of mitigation are shown in Table 4.2-5. Based on the results of the modeling, construction of the project would not exceed ROG and NO_x daily thresholds, but would exceed quarterly Tier 1 thresholds, if construction occurs over a quarter (90 days). Construction would not exceed Tier 2 thresholds (6.3 tons). Based on implementation of Standard Mitigation Measures, quarterly ROG and NO_x emissions would be reduced to 0.02 tons and no additional mitigation is necessary (refer to Table 4.2-5).

Although the project would not exceed quarterly thresholds for fugitive dust (PM_{10}), site disturbance would exceed 4.0 acres within an area designated as non-attainment for fugitive dust. Therefore, in order to prevent a dust nuisance and contribute to fugitive dust generation, standard mitigation will be implemented.

In the event construction activities occur over a quarter (90 days), the project would exceed quarterly Tier 1 DPM thresholds (0.13 tons), requiring mitigation, including Standard Mitigation Measures and BACT. In addition, the project is located within 1,000 feet of potentially sensitive receptors (residences), who may be adversely affected by exposure to DPM emitted by idling construction equipment. As shown in Table 4.2-5, mitigation would reduce potential impacts below the identified threshold.

Table 4.2-4. Construction Emissions (Unmitigated)

	ROG	NO_x	PM_{10}	DPM	CO_{2e}
Winter (lbs/day)	9.53	75.08	18.35	3.61	8,194.39
Threshold (lbs/day)	137		n/a	7	n/a
Mitigation Required	No		n/a	No	n/a
Quarterly (lbs/90 days)	3.8		.83	0.21	n/a
Quarterly Tier 1 (tons)	2.5		2.5	0.13	n/a
Mitigation Required	**Yes**		No	**Yes**	n/a
Quarterly Tier 2 (tons)	6.3		n/a	0.32	n/a
Mitigation Required	No		n/a	No	n/a
Annual (tons/yr)	0.69	4.88	0.16	0.29	543.29
Annual Threshold (tons/yr)	25		25	n/a	n/a
Mitigation Required	No		No	n/a	No

Table 4.2-5. Construction Emissions (Mitigated)

	ROG	NO_x	PM_{10}	DPM	CO_{2e}
Winter (lbs/day)	0.16	0.20	8.41	0.01	8,194.39
Threshold (lbs/day)	137		n/a	7	n/a
Additional Mitigation	No		n/a	No	n/a
Quarterly (lbs/90 days)	0.02		0.38	0.0005	n/a
Quarterly Tier 1 (tons)	2.5		2.5	0.13	n/a
Additional Mitigation	No		No	No	n/a
Annual (tons/yr)	0.00	0.00	0.08	0.00	543.29
Annual Threshold (tons/yr)	25		25	n/a	n/a
Mitigation Required	No		No	n/a	No

Based on the APCD CEQA Air Quality Handbook, standard mitigation and BACT would be required. Standard mitigation is recommended to reduce potential emissions to a less than significant level.

AQ Impact 1 **In the event construction activities occur over a quarter (over 90 days), use of construction equipment would generate reactive organic gases (ROG) and nitrates of oxygen (NO_x) exceeding the 2.5 tons/quarter threshold (Quarterly Tier 1), resulting in a significant, short-term impact.**

AQ/mm-1 *Prior to issuance of construction permits, the following measures shall be incorporated into the construction phase of the project and shown on all applicable plans:*

Construction Equipment

a. *Maintain all construction equipment in proper tune according to manufacturer's specifications;*

b. *Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);*

c. *Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;*

d. *Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;*

e. *Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance;*

f. *All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;*

g. *Diesel idling within 1,000 feet of sensitive receptors is not permitted;*

h. *Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;*

i. *Electrify equipment when feasible;*

j. *Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,*

k. *Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.*

Best Available Control Technology

l. *Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines;*

m. *Repowering equipment with the cleanest engines available; and,*

n. *Installing California Verified Diesel Emission Control Strategies. These strategies are listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm.*

Residual Impacts

The project will generate emissions during grading and construction activities, including the ROG and NO_x. Standard Mitigation Measures and BACT measures identified in the SLOAPCD CEQA Handbook (2012) will be applied, which would mitigate the level of emissions below significance thresholds, resulting in an impact that is *less than significant with mitigation (Class II).*

AQ Impact 2 **Site preparation, ground disturbance, grading, and construction activities would result in the generation of fugitive dust (PM_{10}), potentially creating a nuisance and exacerbating the current non-attainment status for PM_{10}, resulting in a significant, short-term impact.**

AQ/mm-2 *Upon application for construction permits, all required PM10 measures shall be shown on applicable grading or construction plans, and made applicable during grading and construction activities as described below.*

a. *Reduce the amount of the disturbed area where possible;*

b. *Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 miles per hour (mph);*

c. *Reclaimed (non-potable) water should be used whenever possible;*

d. *All dirt stock pile areas should be sprayed daily as needed;*

e. *Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities;*

f. *Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;*

g. *All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;*

h. *All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;*

i. *Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;*

j. *All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code §23114;*

k. *Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site; and,*

l. *Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.*

All of these fugitive dust mitigation measures shall be shown on grading, construction and building plans; and the contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the

implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust off-site. Their duties shall include monitoring the effectiveness of the required dust control measures (as conditions dictate), and shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition.

Residual Impacts

The project will generate emissions during grading and construction activities, including the creation of fugitive dust. Standard Mitigation Measures identified in the SLOAPCD CEQA Handbook (2012) will be applied, which would mitigate the potential for a fugitive dust nuisance and contribution to the County's non-attainment status, resulting in an impact that is *less than significant with mitigation (Class II)*.

AQ Impact 3 **In the event construction activities occur over a quarter (over 90 days), use of equipment would result in diesel particulate matter (DPM) emissions exceeding quarterly (Tier 1) (0.13 tons/quarter) thresholds, and would potentially affect residents within 1,000 feet of the site, resulting in a significant, short-term impact.**

Implement AQ/mm-1.

Residual Impacts

The project will generate emissions during grading and construction activities, including the DPM. Standard Mitigation Measures and BACT measures identified in the SLOAPCD CEQA Handbook (2012) will be applied, which would mitigate identified impacts to *less than significant (Class II).*

Operational Emissions

Based on the traffic report conducted for the project, which considered a "worst case scenario," the average additional daily trips generated by the project would be 38 during the week days (Monday through Friday), and approximately 20 trips on weekend days (Rick Engineering 2012). Special events would generate an additional 66 trips on weekdays and 18 trips on the weekends. Operational emissions that would result from the proposed project were calculated using CalEEMod, pursuant to the CEQA Handbook (2012), before and after application of standard mitigation (refer to Tables 4.2-6 and 4.2-7 below). In general, projects that do not exceed APCD thresholds for ozone precursor emissions or dust do not require mitigation for long-term operational effects on air quality. APCD's recommended levels of mitigation for these pollutants are shown below in Table 4.2-8.

Operation of the project includes the use of an unpaved parking area (arena) during special events, and an unpaved parking area for equestrian trailer (approximately 20,620 square feet). The main parking area would be paved, and the primary overflow parking area would have a gravel base. Use of the arena and equestrian parking area would generate fugitive dust, and would exceed the daily threshold when in use (refer to Table 4.2-6 below). The APCD has developed mitigation measures specific to road dust and for the use of overflow parking during special events, which would reduce this impact to less than significant.

Table 4.2-6. Operational Emissions (Unmitigated)

	ROG	NO_x	DPM	PM_{10}	CO	CO_{2e} (MT)
Winter Daily (lbs)	0.55	0.92	0.03	45.58	4.79	525.84
Threshold (lbs/day)	25		1.25	25	550	n/a
Mitigation Required	No		No	**Yes**	No	n/a
Annual (tons/year)	0.07	0.13	0.00	6.58	0.69	71.00
Annual Amortized (MT/yr)	n/a	n/a	n/a	n/a	n/a	81.87
Threshold (tons/year)	25		n/a	25	n/a	1,150
Mitigation Required	No		No	No	n/a	No

Table 4.2-7. Operational Emissions (Mitigated)

	ROG	NO_x	DPM	PM_{10}	CO	CO_{2e} (MT)
Winter Daily (lbs)	0.54	0.91	0.03	45.13	4.75	520.78
Threshold (lbs/day)	25		1.25	25	550	n/a
Additional Mitigation	No		No	**Yes**	No	n/a
Annual (tons/year)	0.07	0.13	0.00	6.51	0.69	70.00
Annual Amortized (MT/yr)	n/a	n/a	n/a	n/a	n/a	80.99
Threshold (tons/year)	25		n/a	25	n/a	1,150
Additional Mitigation	No		No	No	n/a	No

AQ Impact 4 **Operation of the project would result in the generation of fugitive dust (PM_{10}) exceeding daily thresholds (25 lbs/day), resulting in a significant, short-term and long-term impact during use of unpaved parking areas and the arena.**

AQ/mm-3 *The following mitigation is required on the day(s) of the special event, when use of unpaved overflow parking areas will occur:*

a. The unpaved parking area shall be treated with a dust suppressant such that fugitive dust emissions do not impact offsite areas and do not exceed the APCD 20% opacity limit (see Technical Appendix 4.3 of the SLOAPCD CEQA Handbook);

b. Any unpaved roads/driveways that will be used for the special event shall be maintained with an APCD-approved dust suppressant such that fugitive dust emissions do not impact offsite areas and do not exceed the APCD 20% opacity limit; and

c. The applicant may propose alternative measures of equal effectiveness by contacting the APCD Planning Division.

AQ/mm-4 *To minimize nuisance impacts and to reduce fugitive dust emissions from the arena for the life of the project the following mitigation measures shall be incorporated into the project, and are applicable to the demonstration arena:*

a. Reduce the amount of the disturbed area where possible;

b. Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency whenever wind speeds exceed 15 mph;

c. Reclaimed (non-potable) water shall be used whenever possible;

d. Permanent dust control measures shall be implemented as soon as possible following completion of any soil disturbing activities;

e. All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the Air District; and

f. A person or persons shall be designated to monitor for dust and implement additional control measures as necessary to prevent transport of dust offsite. The monitor's duties shall include holidays and weekend. The name and telephone number of such persons shall be provided to the Air District prior to operation of the arena.

Residual Impacts

Use of unpaved areas for parking and the arena would generate fugitive dust. Standard Mitigation Measures identified in the SLO APCD CEQA Handbook (2012) will be applied, which would mitigate identified impacts to *less than significant (Class II).*

4.2.5.4 Expose Sensitive Receptor to Substantial Air Pollutant Concentrations

As noted above, ground disturbance would generate dust potentially resulting in a nuisance for adjacent residential and agricultural land uses. Projects which emit more than 25 lbs/day or 25 tons/year of fugitive particulate matter need to implement permanent dust control measures to mitigate the emissions below these thresholds or provide suitable off-site mitigation approved by the APCD. Any land uses or activities can result in dust emissions that exceed the APCD significance thresholds, cause violations of an air quality standard, or create a nuisance impact in violation of APCD Rule 402, Nuisance. In all cases where such impacts are predicted, appropriate fugitive dust mitigation measures shall be implemented. Driveways, paths, and trails within the area proposed for developed would be paved or surfaced with decomposed granite or gravel, which would reduce the creation of dust. The existing driveway to the Dana Adobe, existing ranch roads on the 100-acre area, and proposed trails on the 100-acre area would not

be paved or surfaced, which may create dust when used. Operation of the arena would generate dust, and would require suppression measures.

Based on the estimated emissions, the project would not generate substantial air pollutant concentrations affecting sensitive receptors. In addition, implementation of mitigation measures AQ/mm-2, AQ/mm-3, and AQ/mm-4 would further reduce the potential for emissions. Therefore, the potential impact would be *less than significant (Class III).*

4.2.5.5 Create or Expose People to Objectionable Odors

Construction of the proposed project would not generate objectionable odors. Use of the proposed arena may generate odors; however, the existing use of the site includes equestrian grazing, and surrounding areas are agricultural in nature. This use would be consistent with other uses in the area, and would not generate substantial odors affecting adjacent landowners. Therefore, potential short-term and long-term impacts would be *less than significant (Class III).*

4.2.5.6 Consistency with the SLOAPCD's Clean Air Plan

The project is consistent with the general level of development anticipated and projected in the CAP. The project is consistent with the CAP's land use planning strategies, including the provision of educational and recreational opportunities within and adjacent to the Nipomo urban area. Therefore, potential impacts would be *less than significant (Class III)*.

4.2.5.7 Hazardous or Toxic Air Pollutants in Proximity of Sensitive Receptors, Increased Cancer Risk

The APCD has set thresholds for ozone precursor emissions, DPM, fugitive particulate matter emissions (dust), and CO emissions. Ozone precursor emissions are measured as combined ROG and NO_x emissions. DPM is seldom emitted from individual projects in quantities which lead to local or regional air quality attainment violations. DPM is, however, a toxic air contaminant and carcinogen, and exposure to DPM may lead to increased cancer risk and respiratory problems. Certain industrial and commercial projects may emit substantial quantities of DPM through the use of stationary and mobile on-site diesel-powered equipment as well diesel trucks and other vehicles that serve the project.

<u>Construction-Related Emissions</u>

Construction of the proposed project would not generate or result in public exposure to hazardous or toxic air pollutants in the proximity of sensitive receptors. Exposure to DPM is addressed below and in AQ Impact 3. Therefore, potential impacts would be *less than significant (Class III).*

<u>Operational Emissions</u>

The project site is located 0.15 mile (792 feet) from US 101, and is not located in an area at risk for exposure to hazardous or toxic air pollutants. The project does not include any features that would generate toxic air pollutants. Therefore, potential impacts would be *less than significant (Class III).*

4.2.5.8 Emission of Diesel Particulate Matter

<u>Construction-Related Emissions</u>

As noted above (refer to AQ Impact 3), construction of the proposed project would generate DPM within 1,000 feet of residences (sensitive receptors). In the event construction activities

occur over a quarter (over 90 days), use of equipment would generate DPM emissions exceeding quarterly (Tier 1) (0.13 tons/quarter) thresholds. Implementation of AQ/mm-1 would address this impact by mitigating DPM to a level below the threshold of significance.

Operational Emissions

The project site is located 0.15 mile (792 feet) from US 101, and is not located in an area at risk for exposure to hazardous or toxic air pollutants. The project does not include any features that would generate toxic air pollutants. Therefore, potential impacts would be *less than significant (Class III).*

4.2.5.9 Asbestos-Containing Materials

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition or remodeling of existing buildings. Asbestos can also be found in utility pipes/pipelines. If utility pipelines are scheduled for removal or relocation or a building(s) is proposed to be removed or renovated, various regulatory requirements may apply, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40 Code of Federal Regulations [CFR] 61, Subpart M – Asbestos, National Emission Standards for Hazardous Air Pollutants [NESHAPs]). These requirements include but are not limited to: 1) notification to the APCD, 2) an asbestos survey conducted by a Certified Asbestos Inspector, and 3) applicable removal and disposal requirements of identified ACM.

AQ Impact 5 **In the event construction of the project requires remodeling or demolition of structures, utilities, or pipelines, asbestos-containing material may occur, resulting in a significant, short-term impact.**

AQ/mm-5 *Proposed demolition activities can result in potentially negative air quality impacts, especially where material exists containing asbestos material. Prior to issuance of any construction permit to remove or demolish any buildings or utility pipes on the subject property, the applicant shall provide evidence they have contacted APCD to determine: a) what regulatory jurisdictions apply to the proposed demolition, such as the National Emission Standard for Hazardous Air Pollutants (40 CFR 61, Subpart M – Asbestos NESHAP); b) District notification requirements; c) the need for an asbestos survey conducted by Certified Asbestos Inspector; and d) applicable removal and disposal requirements of the asbestos-containing material.*

Residual Impacts

Based on implementation of standard mitigation identified above, potential impacts related to exposure to asbestos-containing materials would be *less than significant with mitigation (Class II).*

4.2.5.10 Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) has been identified as a toxic air contaminant by CARB. Under the CARB Airborne Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities a geologic evaluation should be conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the APCD. If NOA is found at the

site, the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. Based on Technical Appendix 4.4 of the SLOAPCD's CEQA Handbook, the project site is within a location of potentially occurring NOA, and standard mitigation would apply. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations. These requirements may include but are not limited to: development of an Asbestos Dust Mitigation Plan which must be approved by the APCD before operations begin, and development and approval of an Asbestos Health and Safety Program. If NOA is not present, an exemption request must be filed with the APCD. Based on review of the Soils Engineering Report (GeoSolutions 2011), the 30-acre portion of the site does not include serpentine, ultramafic, or Franciscan soils, which are known to contain NOA.

AQ Impact 6 **Grading and ground disturbance within the 100-acre portion of the project site may result in exposure to naturally-occurring asbestos, resulting in a significant, short-term impact.**

AQ/mm-6 *Prior to issuance of grading permit, the applicant shall submit a geologic evaluation of naturally occurring asbestos on the 100-acre portion of the project site to the APCD. If naturally occurring asbestos is present onsite, the applicant shall comply with all requirements outlined in the Asbestos Airborne Toxic Control Measures (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. These requirements may include, but are not limited to: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD prior to construction, and 2) an Asbestos Health and Safety Program. Prior to development on the 30-acre portion of the site, the applicant shall submit a Naturally Occurring Asbestos Construction and Grading Permit Exemption Request Form to the APCD. If the applicant has any questions regarding these requirements, they shall contact the APCD.*

Residual Impacts

Based on implementation of standard mitigation identified above, potential impacts related to exposure to NOA would be *less than significant with mitigation (Class II).*

4.2.5.11 Hazardous or Toxic Air Pollutants in Proximity of Sensitive Receptors, Such as Schools, Churches, Hospitals

Construction-Related Emissions

Construction of the proposed project would not generate or result in public exposure to hazardous or toxic air pollutants in the proximity of sensitive receptors. The project site is not located in proximity to any schools, churches, or hospitals. Exposure to DPM is addressed below and in AQ Impact 3. Therefore, potential impacts would be *less than significant (Class III).*

Operational Emissions

The project site is located 0.15 mile (792 feet) from US 101, and is not located in an area at risk for exposure to hazardous or toxic air pollutants. The project does not include any features that would generate toxic air pollutants. Therefore, potential impacts would be *less than significant (Class III).*

4.2.5.12 Nuisance Odor Problem

As noted above, construction of the proposed project would not generate objectionable odors creating a nuisance. Use of the proposed arena may generate odors; however, the existing use of the site includes equestrian grazing, and surrounding areas are agricultural in nature. This use would be consistent with other uses in the area, and would not generate substantial odors affecting adjacent landowners. Therefore, potential short- and long-term impacts would be *less than significant (Class III).*

4.2.5.13 Greenhouse Gas Emissions and Climate Change

In California, the main sources of GHGs are from the transportation and energy sectors. GHGs remain in the atmosphere for periods ranging from decades to centuries; the main GHGs emitted by human activities include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6.

A warming trend of approximately 1.0 to 1.7ºF occurred during the 20th Century. It is generally agreed that human activity has been increasing the concentration of GHGs in the atmosphere, mostly CO_2 from the combustion of coal, oil and gas (National Climatic Data Center [NCDC] 2008). The effect of each GHG on climate change is measured as a combination of the volume or mass of its emissions, and the potential of a gas or aerosol to trap heat in the atmosphere (global warming potential), and is expressed as a function of how much warming would be caused by the same mass of CO_2. The potential effects on future climate change on California resources include increases of air temperature, sea level rise, reduced water resources and changed flood hydrology, changed forest composition and productivity, increased wild fires, changed habitats and ecosystems, changed crop yields and increased irrigation demands, and increased smog and public health issues.

Based on emission estimates calculated with CalEEMod (refer to Table 4.2-6 above), development of the project would generate approximately 79.45 MT of CO_{2e} per year for the lifetime of the project. This would not exceed the APCD's adopted threshold (1,150 MT/year). In addition, the proposed project incorporates many of APCD's standard measures for GHG reduction, including: the creation of multi-use paths; use of buses to shuttle visitors and students; drought-tolerant and native landscaping; use of alternative energy including solar; water conservation measures; and, the location of the project within and adjacent to an urban area. Based on the location and design of the project, potential short-term and long-term impacts would be *less than significant (Class III).*

4.2.6 Cumulative Impacts

The cumulative study area for air quality impacts is the South Central Coast Air Basin (SCCAB). The project would contribute criteria pollutants during project construction and long-term operational use, including ozone precursors and particulate matter. Several land development projects are either under consideration by the County, under construction, or recently built, including mixed-use, residential, commercial, health facility projects. Some of these projects may be under construction simultaneously with the project and, in the long term, would be generating similar air emissions due to use of construction equipment, increased traffic trips, and energy use.

Depending on construction schedules and actual implementation of projects in the air basin, generation of fugitive dust and pollutant emissions during construction could result in short-term increases in air pollutants. Analysis conducted specifically for this project concluded that implementation of the proposed project would not significantly contribute to cumulative long-

term operational air quality impacts because it would not exceed identified thresholds upon implementation of mitigation. GHG impacts, including those described above, all contribute cumulatively with those produced worldwide, to affect climate change. As proposed, the project includes design elements that would reduce the potential for GHG emissions, and would not result in a significant contribution to cumulative GHG emissions, and subsequent climate change. Cumulative effects would be *less than significant (Class III)*.