

4.5 Air Quality

This section evaluates the potential for the proposed Plan to result in air quality and greenhouse gas (GHG) emissions impacts. This section takes into account the total development that would occur within the 20-year planning horizon. Results of existing and buildout emissions modeling is contained in Appendix F.

4.5.1 Setting

4.5.1.1 Local Climate and Meteorology

Air quality in the County is influenced by both topographical and meteorological conditions. The Plan Area is located in the South Coast region of the County and includes the coastal plain and foothills west of the City of Goleta. The Gaviota Coast is located between the Santa Ynez Mountains and the Pacific Ocean and characterized by steep terrain in the northern portion of the Plan Area and gently sloping to relatively flat terrain in the southern coastal area. The majority of land within the Plan Area is designated Agricultural or Mountainous Areas.

The lower elevations of the Plan Area experience a mild climate with high temperatures normally within ten degrees of 70 degrees Fahrenheit (°F) year-round; low temperatures rarely fall below 40°F. The Plan Area can experience Santa Ana winds primarily during the fall and winter. These are warm, dry winds blown from the high inland desert that descend the slopes of the mountain range. During Santa Ana conditions, pollutants emitted in the South Central Coast Air Basin (SCCAB) and the South Coast Air Basin (Los Angeles area) are moved out to sea. These pollutants can then be moved back onshore into the County in what is called a "post-Santa Ana condition." The effects of the post-Santa Ana condition can be experienced throughout the County. Not all post-Santa Ana conditions, however, lead to high pollutant concentrations in the County.

The Plan Area's geography, south of the Santa Ynez Mountains, sometimes results in hot winds called "sundowners," similar to the Santa Ana winds. The strongest winds occur when the pressure gradient is perpendicular to the axis of the Santa Ynez Mountains. They are caused by low pressure drawing dry air from the inland side of the mountains, where they are compressed and can become superheated as they rush down on the coastal side of the mountains.

4.5.1.2 Existing Air Quality

Air Quality Standards

Air quality at a particular location is a function of the types, volumes, and dispersal rates of pollutants being emitted into the air locally and throughout the County. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by inversions), and the local topography.

The state of California is divided geographically into 15 air basins for the purpose of managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a moderate, serious, severe, or extreme non-attainment area (there is also a marginal classification for federal non-attainment areas).

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. National and California AAQS have been established for criteria pollutants. The criteria pollutants of primary concern that are considered in this air quality assessment include ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulate matter (PM₁₀ and PM_{2.5}). PM₁₀ and PM_{2.5} refer to the maximum size of dust particles as measured in microns. Although there are no AAQS for reactive organic gases/volatile organic compounds or nitrogen oxides (NO_x), they are important as precursors to ozone.

The SCCAB is designated as in nonattainment of the state ozone and PM₁₀ standards. The SCCAB is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all other state and federal standards. AAQS are discussed in further detail in Section 4.5.2.

Existing Sources of Emissions

Mobile sources of air pollution in the Plan Area include on road vehicles such as cars, trucks, and buses, and off road equipment used for agricultural and construction related purposes. Stationary sources of air pollution are non-moving sources such as landfills, power plants, generators, manufacturing and industrial facilities, chemical plants, offshore and onshore oil and gas production, and oil and gas processing facilities. Stationary sources are regulated through the permitting process of Santa Barbara County or incorporated cities and by the local Air Pollution Control District (APCD).

There are several stationary sources in the Plan Area including the Tajiguas Landfill, Gaviota Oil Heating Facility, and ExxonMobil's Las Flores Canyon Oil and Gas Processing Plant, which is the largest stationary source in the Plan Area. The Las Flores Canyon plant receives unprocessed oil from three offshore platforms and processes it into dry, crude oil by removing

water and natural gas, as well as sulfur and other compounds. The plant then sends the resulting crude oil to refineries outside the Plan Area via the Plains All-American Pipeline for refining into end use products. The Las Flores Canyon plant is a permitted source under the regulatory authority of the Santa Barbara County Air Pollution Control District (SBCAPCD) and operates pursuant to land use permits issued by Santa Barbara County. Other permitted stationary sources within the Plan Area include the Tajiguas Landfill and Gaviota Oil Heating Facility (Loriorio 2015).

Air Monitoring Stations

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the California Air Resources Board (CARB) or federal standards set by the U.S. Environmental Protection Agency (U.S. EPA). There are 13 air monitoring stations located in the SCCAB (CARB 2015). Air pollutant concentrations and meteorological information are continuously recorded at these 13 stations. Measurements are then used by scientists to help forecast daily air pollution levels.

Table 4.5-1 summarizes the number of days per year during which state and federal standards were exceeded in the County overall during the years 2010 to 2014.

Table 4.5-1: Ambient Air Quality Summary—County					
Pollutant/Standard	2010	2011	2012	2013	2014
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	0	1	0	0	3
Days State 8-hour Standard Exceeded (0.07 ppm)	8	3	5	3	10
State Max. 1-hr (ppm)	0.093	0.110	0.094	0.085	0.112
State Max. 8-hr (ppm)	0.083	0.091	0.082	0.077	0.089
Days Federal 8-hour Standard Exceeded (0.075 ppm)	4	2	2	1	4
National Max. 1-hr (ppm)	0.093	0.110	0.094	0.85	0.112
National Max 8-hr (ppm)	0.083	0.090	0.081	0.077	0.089
Carbon Monoxide					
Days State 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Days Federal 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Max. 8-hr (ppm)	2.8	3.1	2.1	2.6	4.1
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.090	0.053	0.048	0.139	0.052
Annual Average (ppm)	0.009	0.009	0.010	0.009	0.009
PM₁₀					
Measured Days State 24-hour Standard Exceeded (50 µg/m ³)	4	3	3	17	19
Days Federal 24-hour Standard Exceeded (150 µg/m ³)	0	0	0	0	0
Max. Daily (µg/m ³)	63.0	68.0	52.8	107.1	96.0
State Annual Average (µg/m ³)	21.6	22.4	22.7	29.6	30.4
Federal Annual Average (µg/m ³)	Na	Na	Na	Na	Na
PM_{2.5}*					

Table 4.5-1: Ambient Air Quality Summary—County					
Pollutant/Standard	2010	2011	2012	2013	2014
Days '97 Federal 24-hour Standard Exceeded ($65 \mu\text{g}/\text{m}^3$)	0	0	0	0	0
Days '06 Federal 24-hour Standard Exceeded ($35 \mu\text{g}/\text{m}^3$)	0	0	0	0	0
State Max. Daily ($\mu\text{g}/\text{m}^3$)	23.6	18.8	29.0	20.5	17.7
National Max. Daily ($\mu\text{g}/\text{m}^3$)	27.3	25.9	32.0	20.4	Na
State Annual Average ($\mu\text{g}/\text{m}^3$)	8.2	8.4	9.0	9.3	9.9
Federal Annual Average ($\mu\text{g}/\text{m}^3$)	8.9	11.0	8.6	9.0	Na
Sulfur Dioxide					
Days State 24-hour Standard Exceeded (0.04 ppm)	0	0	0	0	0
Max. Daily (ppm)	0.0028	0.0037	0.0243	0.0138	0.0085
Annual Average (ppm)	0.0012	0.0015	0.0022	0.0020	0.0010

SOURCE: CARB 2015

NOTES: Na = Not available; ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

There are three monitoring stations located within the Plan Area that monitor criteria pollutants, El Capitan Beach, Gaviota-Nojoqui Pass, and Las Flores Canyon. Tables 4.5-2a through 4.5-2c provide a summary of measurements collected at these monitoring stations for the years 2010 through 2014. An additional site, Las Flores Canyon-Odor Site, measures hydrogen sulfide and wind rose data.

Table 4.5-2a: Summary of Air Quality Measurements Recorded at the El Capitan Beach Monitoring Station					
Pollutant/Standard	2010	2011	2012	2013	2014
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	0	1	0	0	1
Days State 8-hour Standard Exceeded (0.07 ppm)	1	1	0	0	1
Days Federal 8-hour Standard Exceeded (0.075 ppm)	0	1	0	0	1
Days '97 Federal 8-hour Standard Exceeded (0.08 ppm)	0	0	0	0	0
Max. 1-hr (ppm)	0.084	0.105	0.074	0.069	0.095
Max 8-hr (ppm)	0.073	0.077	0.062	0.061	0.078
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.042	0.028	0.031	0.026	0.024
Annual Average (ppm)	0.003	0.003	0.003	0.003	0.003
PM₁₀*					
Days State 24-hour Standard Exceeded ($50 \mu\text{g}/\text{m}^3$)	0	0	0	2	5
Days Federal 24-hour Standard Exceeded ($150 \mu\text{g}/\text{m}^3$)	0	0	0	0	0
Max. Daily ($\mu\text{g}/\text{m}^3$)	40.0	35.0	41.0	54.1	96.0
State Annual Average ($\mu\text{g}/\text{m}^3$)	Na	Na	Na	Na	Na
Federal Annual Average ($\mu\text{g}/\text{m}^3$)	Na	Na	Na	Na	Na

Table 4.5-2a: Summary of Air Quality Measurements Recorded at the El Capitan Beach Monitoring Station					
Pollutant/Standard	2010	2011	2012	2013	2014
Sulfur Dioxide					
Days State 24-hour Standard Exceeded (0.04 ppm)	0	0	0	0	0
Max. Daily (ppm)	0.001	0.002	0.001	0.002	0.002
Annual Average (ppm)	0.000	0.000	0.000	0.000	0.000

SOURCE: CARB 2015

NOTES: Na = Not available; ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

*Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Table 4.5-2b: Summary of Air Quality Measurements Recorded at the Gaviota - Nojoqui Station					
Pollutant/Standard	2010	2011	2012	2013	2014
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	0	0	0	0	1
Days State 8-hour Standard Exceeded (0.07 ppm)	0	2	0	0	2
Days Federal 8-hour Standard Exceeded (0.075 ppm)	0	0	0	0	0
Days '97 Federal 8-hour Standard Exceeded (0.08 ppm)	0	0	0	0	0
Max. 1-hr (ppm)	0.071	0.084	0.083	0.072	0.098
Max 8-hr (ppm)	0.062	0.071	0.062	0.064	0.073
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.043	0.024	0.028	0.022	0.025
Annual Average (ppm)	0.004	0.004	0.003	0.003	0.003

SOURCE: CARB 2015

Notes: Na = Not available; ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Table 4.5-2c: Summary of Air Quality Measurements Recorded at the Las Flores Canyon Monitoring Station					
Pollutant/Standard	2010	2011	2012	2013	2014
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	0	1	0	0	1
Days State 8-hour Standard Exceeded (0.07 ppm)	4	2	4	1	4
Days Federal 8-hour Standard Exceeded (0.075 ppm)	3	1	2	0	2
Days '97 Federal 8-hour Standard Exceeded (0.08 ppm)	1	1	1	0	1
Max. 1-hr (ppm)	0.091	0.099	0.091	0.081	0.099
Max 8-hr (ppm)	0.082	0.090	0.081	0.074	0.086

Table 4.5-2c: Summary of Air Quality Measurements Recorded at the Las Flores Canyon Monitoring Station					
Pollutant/Standard	2010	2011	2012	2013	2014
Carbon Monoxide*					
Days State 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Days Federal 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Max. 8-hr (ppm)	Na	Na	Na	Na	Na
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.035	0.023	0.024	0.094	0.013
Annual Average (ppm)	0.002	0.002	0.002	0.002	0.000
PM₁₀*					
Days State 24-hour Standard Exceeded (50 µg/m ³)	0	0	0	1	0
Days Federal 24-hour Standard Exceeded (150 µg/m ³)	0	0	0	0	0
Max. Daily (µg/m ³)	29.0	32.0	34.0	50.6	44.4
State Annual Average (µg/m ³)	Na	Na	Na	Na	Na
Federal Annual Average (µg/m ³)	Na	Na	Na	Na	Na
Sulfur Dioxide					
Days State 24-hour Standard Exceeded (0.04 ppm)	0	0	0	0	0
Max. Daily (ppm)	0.003	0.004	0.024	0.014	0.008
Annual Average (ppm)	0.001	0.001	0.002	0.000	0.000

SOURCE: CARB 2015

NOTES: Na = Not available; ppm = parts per million.

* Data on the maximum 8-hr average concentration was not available, however if the maximum 1-hr average was below the 8-hr standard no exceedances occurred.

4.5.1.3 Greenhouse Gas Emissions

Background

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere. Because recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the U.S. and the world.

There are numerous GHGs, both naturally occurring and human-made. Table 4.5-3 summarizes some of the most common. Each GHG has a variable atmospheric lifetime and global warming potential (GWP).

Gas	Atmospheric Lifetime	100-year GWP
Carbon Dioxide (CO ₂)	50-200	1
Methane (CH ₄)*	12±3	21
Nitrous Oxide (N ₂ O)	120	310

SOURCE: U.S. EPA 2010, Annex 6.

* The CH₄ global warming potential (GWP) includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

The atmospheric lifetime of the GHG is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. The potential of a gas to trap heat and warm the atmosphere is measured by its GWP. Specifically, GWP is defined as (U.S. EPA 2010):

The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

The reference gas for establishing GWP is carbon dioxide (CO₂), which has a GWP of 1. As an example, methane (CH₄), while having a shorter atmospheric lifetime than CO₂, has a 100-year GWP of 21, which means that it has a greater global warming effect than CO₂ on a molecule-by-molecule basis.

Baseline Emissions Inventory

The CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are

quantified in million metric tons of CO₂ equivalent (MMTCO₂E). Table 4.5-4 shows the estimated statewide GHG emissions for the years 1990 and 2012. Table 4.5-4 provides a summary of the GHGs of primary concern which are produced by both biogenic (natural) and anthropogenic (human) sources. CO₂ would be emitted due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH₄ and nitrous oxide would be emitted from the same project operations.

Table 4.5-4: California Greenhouse Gas Emissions by Section in 1990 and 2012		
Sector³	1990¹ Emissions in MMTCO₂E (% Total)⁴	2012² Emissions in MMTCO₂E (% Total)⁴
Sources		
Agriculture	23.4 (5%)	37.9 (8%)
Commercial	14.4 (3%)	14.2 (3%)
Electricity Generation	110.6 (26%)	95.1 (21%)
High GWP	--	18.4 (4%)
Industrial	103.0 (24%)	89.2 (19%)
Recycling and Waste	--	8.5 (2%)
Residential	29.7 (7%)	28.1 (6%)
Transportation	150.7 (35%)	167.4 (36%)
Forestry (Net CO ₂ flux)	-6.69	--
Not Specified	1.27	--
TOTAL	426.6	458.7

SOURCE: CARB 2007, 2014

¹ 1990 data was retrieved from the CARB 2007 source.

² 2012 data was retrieved from the CARB 2014 source.

³ Reported emissions for key sectors, The inventory totals for 2012 did not include Forestry or Not Specified sources.

⁴ Percentages may not total 100 due to rounding.

As shown in Table 4.5-4, statewide GHG source emissions totaled 426.6 MMTCO₂E in 1990 and 458.7 MMTCO₂E in 2012. The statewide GHG emissions in 2012 are higher than the statewide GHG emissions reported for 1990. In 2012, transportation-related emissions contributed the most GHG emissions, followed by industrial emissions, and then electricity generation.

In 2007, the County completed a GHG emissions inventory for the unincorporated County using 2007 as a base year. Table 4.5-5 summarizes the emissions by sector.

Table 4.5-5: 2007 Unincorporated County Greenhouse Gas Emissions by Sector			
Sector	Subsector	Activity	MTCO₂E
Transportation	On-road transportation from trips beginning or ending in the unincorporated county.	1,075,523,400 VMT	521,160
Residential Energy	Residential Electricity	293,717,600 kWh	85,610
	Residential Natural Gas	20,656,900 therms	109,890
Commercial Energy	Commercial Electricity	143,946,300 kWh	41,950
	Commercial Natural Gas	14,968,300 therms	79,630
Off-Road	Agricultural Equipment	6,878,600 gallons	67,500
	Construction and Mining Equipment	2,882,600 gallons	28,560
	Industrial Equipment	309,800 gallons	2,490
	Lawn and Garden Equipment	373,700 gallons	2,560
	Light Commercial Equipment	130,400 gallons	1,030
Solid Waste	Landfilled Waste	115,390 tons	90,440
	Alternative Daily Cover	2,380 tons	1,480
Agriculture	Fertilizer Emissions	116,400 acres of crops	34,080
	Livestock Emissions	26,200 livestock	28,030
Water and Wastewater	Electricity used by water systems	85,710 million gallons	42,680
	Wastewater Emissions	2,577 million gallons	1,550
	Septic Tanks	8,749 septic tanks	5,280
Industrial Energy	Industrial Electricity	114,952,900 kWh	33,500
	Industrial Natural Gas	2,498,600 therms	13,290
Aircraft	Landings and takeoffs from Santa Ynez Airport	71 daily flights	2,270
TOTAL			1,192,980

SOURCE: County of Santa Barbara 2014b

4.5.2 Regulatory Framework

Section 4.5.2.1 includes a discussion of the regulatory framework for addressing Plan impacts on air quality. Section 4.5.2.2 addresses the regulatory framework for GHG impacts.

4.5.2.1 Air Quality

As discussed previously, the Plan Area is in the SCCAB. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a moderate, serious, severe, or extreme non-attainment area for that pollutant (there is also a marginal classification for federal non-attainment areas). Once a non-attainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the Clean Air Act. Areas that are redesignated to attainment are called maintenance areas.

Federal

AAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the Clean Air Act [42 USC 7409], the U.S. EPA developed primary and secondary national AAQS (NAAQS).

Six criteria pollutants of primary concern have been designated: O₃, CO, SO₂, NO₂, lead, PM₁₀, and PM_{2.5}). The primary NAAQS “. . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . ” and the secondary standards “. . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air” [42 USC 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 4.5-6 (State of California 2013a).

State

Criteria Pollutants

The U.S. EPA allows states the option to develop different (stricter) air quality standards. California AAQS (CAAQS) generally has set more stringent limits on the criteria pollutants than the NAAQS (see Table 4.5-6). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 4.5-6).

The California Clean Air Act requires that districts assess their progress triennially and report to CARB as part of the triennial plan revisions. The California Clean Air Act additionally requires that Air Quality Management Districts implement regulations to reduce emissions from mobile sources through the adoption and enforcement of transportation control measures and:

- Demonstrate the overall effectiveness of the air quality program;
- Reduce nonattainment pollutants at a rate of 5 percent per year, or include all feasible measures and expeditious adoption schedule;
- Reduce population exposure to severe nonattainment pollutants according to a prescribed schedule; and
- Rank control measures by cost-effectiveness and implementation priority.

The SCCAB is a non-attainment area for the state ozone and PM₁₀ standards. The SCCAB is in attainment for all other CAAQS.

Table 4.5-6: Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ²	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁸	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		–		
Fine Particulate Matter (PM _{2.5}) ⁸	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12 µg/m ³		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m ³)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–	–	
Nitrogen Dioxide (NO ₂) ⁹	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹⁰	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	–	Ultraviolet Fluorescence; Spectro photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹⁰	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ¹⁰	–	
Lead ^{11,12}	30 Day Average	1.5 µg/m ³	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m ³		
Visibility Reducing Particles ¹³	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chroma- tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹¹	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chroma- tography			

Table 4.5-6: Ambient Air Quality Standards

SOURCE: State of California 2013a

NOTES: ppm = parts per million; ppb = parts per billion; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; – = not applicable.

¹California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10} , $\text{PM}_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

²National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10} , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For $\text{PM}_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

³Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

⁴Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

⁵National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

⁶National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

⁷Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

⁸On December 14, 2012, the national annual $\text{PM}_{2.5}$ primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour $\text{PM}_{2.5}$ standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standards of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM_{10} standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

⁹To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

¹⁰On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

¹¹The ARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

¹²The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

¹³In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the SBCAPCD Rules 316, 335, 336, and 340. Of particular concern statewide are diesel-exhaust particulate matter emissions. Diesel-exhaust particulate matter was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program. Diesel emissions generated within the Plan Area and the surrounding areas pose a potential hazard to residents and visitors.

Following the identification of diesel particulate matter as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from diesel particulate matter. The overall strategy for achieving these reductions is found in the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (State of California 2000). A stated goal of the plan is to reduce the cancer risk statewide arising from exposure to diesel particulate matter 85 percent by 2020.

In April 2005, CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (State of California 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation, economics). It notes that the handbook is not

regulatory or binding on local agencies and recognizes that implementation requires a qualitative approach. As reflected in the CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day should be avoided when possible.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of diesel-particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to diesel particulate matter will continue to decline.

State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. All of the items included in the California SIP are listed in 40 Code of Federal Regulations 52.220.

The SBCAPCD is responsible for preparing and implementing the portion of the SIP applicable to the County. The SBCAPCD adopts rules, regulations, and programs to attain state and federal air quality standards, and appropriates money (including permit fees) to achieve these objectives.

Local

Santa Barbara County Air Pollution Control District

The SBCAPCD is the air pollution control agency in the Plan Area. The role of the local SBCAPCD is to protect the people and the environment of the County from the effects of air pollution. The SBCAPCD jurisdiction covers the entire County including the incorporated cities of Buellton, Carpinteria, Goleta, Guadalupe, Lompoc, Santa Barbara, Santa Maria, and Solvang. The SBCAPCD prepares Clean Air Plans (CAPs) to provide an overview of air quality and sources of air pollution and to identify the pollution-control measures needed to meet clean air standards. The CAP is updated every three years. The 2013 CAP is the sixth triennial update to the initial State CAP adopted by the SBCAPCD in 1991. The goal of the 2013 Clean Air Plan is to reduce ozone precursor emissions from a wide variety of stationary and mobile sources. Each of the CAPs has implemented "an all feasible measures" strategy to ensure continued progress towards attainment of the state ozone standards.

Santa Barbara County Comprehensive Plan

The Santa Barbara County Comprehensive Plan guides development in the County. The following Comprehensive Plan Policies are related to air quality and GHG emissions:

Land Use Element Parks/Recreation Policy 1: Bikeways shall be provided where appropriate for recreational and commuting use.

Coastal Land Use Plan Policy 2-5: Water-conserving devices shall be used in all new development.

Energy Element Policy 3.1: Enhance opportunities for alternative transportation.

Energy Element Policy 3.5: The County shall consider the completion of an integrated bikeway system, linking residences with commercial centers, work locations, schools, parks and mass transit facilities to be a high priority for promoting the use of the bicycle as an alternative mode of transportation.

Energy Element Goal 4: Water Use and Solid Waste: Increase the efficiency of water and resource use to reduce energy consumption associated with various phases of using resources (pumping, distribution, treatment, heating, etc.).

Agricultural Element Policy I.E: The County shall recognize that the generation of noise, smoke, odor, and dust is a natural consequence of the normal agricultural practices provided that agriculturalists exercise reasonable measures to minimize such effects.

Agricultural Element Policy I.F: The quality and availability of water, air, and soil resources shall be protected through provisions including but not limited to, the stability of Urban/Rural Boundary Lines, maintenance of buffer areas around agricultural areas, and the promotion of conservation practices.

4.5.2.2 Greenhouse Gas Emissions

Executive Order S-3-05—Statewide GHG Emission Targets

This executive order (EO) proclaims that California is vulnerable to the impacts of climate change, including increased temperatures that could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, it established the following GHG emission reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020 reduce GHG emissions to 1990 levels;
- by 2050 reduce GHG emissions to 80 percent below 1990 levels.

This EO also directed the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts on California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years thereafter.

AB 32—California Global Warming Solutions Act of 2006

In response to EO S-3-05, the California legislature passed AB 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 required CARB to establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009 indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

Climate Change Scoping Plan

As directed by AB 32, in 2008 CARB adopted the Climate Change Scoping Plan, which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted business as usual (BAU) emissions in 2020 to the state’s historic 1990 emissions level. CARB determined that an approximate 28.5 percent reduction in BAU emissions was needed by 2020 (CARB 2008). In 2011, CARB revised its 2020 BAU projections to account for the economic downturn and to account for laws that had taken effect but were not included in the 2008 calculations (specifically Pavley I and the Initial Renewables Portfolio Standard [RPS], which are discussed later in this section). Based on that effort CARB updated the projected 2020 emissions and determined that an approximate 15.8 percent reduction in BAU emissions was needed by 2020 (CARB 2011a).

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update). The stated purpose of the First Update is to “highlight[] California’s success to date in reducing its GHG emissions and lay[] the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050” (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals (CARB 2014).

SB 375—Regional Emissions Targets

SB 375 was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan (CARB 2010b). The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law.

SB 375 requires Metropolitan Planning Organizations to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that Metropolitan Planning Organization's Regional Transportation Plan (RTP).

The Santa Barbara County Association of Governments (SBCAG) is the County region's Metropolitan Planning Organization. The SBCAG Board adopted the 2040 Regional Transportation Plan and Sustainable Communities Strategy (RTP-SCS) and certified the EIR in August 2013. The CARB targets for SBCAG call for a zero percent increase in GHG emissions per capita from automobiles and light duty trucks in 2020 and 2035 when compared to 2005 levels (SBCAG 2013). The reduction targets are to be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The 2040 RTP-SCS plans to exceed the zero net growth target and sets goals of achieving reductions of 10.5 percent per capita in 2020 and 15.4 percent per capita in 2035 (SBCAG 2013). The SBCAG also prioritized the preservation of open space, sensitive habitat areas, and agricultural land as a principal land use objective. The 2040 RTP-SCS achieves this objective by concentrating growth in core urban areas and it would protect agriculture and open space land in the unincorporated areas from conversion to urban use.

Santa Barbara County Energy and Climate Action Plan

On May 19, 2015, the County Board of Supervisors adopted the Energy and Climate Action Plan (ECAP) which identifies GHG emission reduction and government operation measures needed to achieve the County's GHG reduction target of 15 percent below baseline (2007) levels by 2020, which is aligned with the statewide GHG reduction goal established by AB 32. The ECAP quantifies current emissions, forecasts future emissions, and identifies GHG reduction measures. The ECAP GHG reduction measures combine voluntary, phased, and mandatory measures to achieve the reduction goal.

The ECAP was recommended as one of two tools undertaken by the County to address GHG emissions. The ECAP applies to community-wide GHG emissions in the unincorporated area and does not address stationary source GHG emissions. The second tool is the County's GHG Emissions Threshold of Significance, which will guide the County's future environmental analysis of GHG emissions from stationary industrial sources. Emissions were forecasted to the years 2020 and 2035 to establish BAU projections. The BAU projections for 2020 were used as a starting point for the County to determine the level of emissions reductions needed to reach a reduction target. After accounting for the reductions from state policies and plans it was determined that the County would need to reduce emissions by approximately 15 percent below the 2007 baseline levels (as the ECAP shows that state policies and plans would reduce emissions to approximately the baseline level). Therefore, the GHG reduction target is 15 percent below the 2007 baseline levels. To achieve the GHG reduction target, the ECAP GHG emission reduction measures include promoting infill development, transit-oriented development, and supporting SBCAG's SCS policies to reduce GHG emissions from the

transportation sector. ECAP measures fall in a variety of categories including the built environment, renewable energy, and waste reduction. The objective of the ECAP is to outline a clear path to successfully implementing measures that will achieve the County's GHG reduction targets, including the following specific objectives:

- Create a GHG emissions baseline from which to benchmark GHG emissions reductions.
- Reduce the County's GHG emissions by 15 percent from baseline emissions by 2020 to be consistent with the reduction target of AB 32.
- Increase the community's resilience to the effects of climate change.
- Provide a policy document with specific implementation measures to be considered as part of the planning process for future development projects.
- Provide a list of specific actions that will reduce GHG emissions, with the highest priority given to actions that provide the greatest reduction in GHG emissions and benefit the community at the least cost.
- Identify energy efficiency goals and targets.
- Create an energy efficiency strategy to meet the County's energy reduction goals.
- Implement programs to comply with the State of California's GHG reduction and long-term energy efficiency goals.
- Establish a qualified reduction plan from which future development within the unincorporated County can tier and thereby streamline the environmental analysis necessary under the California Environmental Quality Act (CEQA), as identified in CEQA Guidelines Section 15183.5(b).

The GHG inventory undertaken in compliance with the ECAP quantifies total emissions in the County and is sorted into transportation, residential energy use, commercial energy use, off-road equipment, solid waste disposal, agriculture, water and wastewater, industrial energy and aircraft operations sectors. Overall, it was estimated that the County emitted 1,090,830 MTCO₂E in 2007. The highest emission categories were transportation (48 percent), residential energy (18 percent), and commercial energy (11 percent). Agriculture, the primary land use within the Plan Area, contributed approximately 6 percent of total emissions within the County.

4.5.3 Impact Analysis

4.5.3.1 Thresholds of Significance

Emissions were calculated following the methodology and guidance from the SBCAPCD Scope and Content of Air Quality Sections in Environmental Documents (SBCAPCD 2011). Air quality impacts were assessed using thresholds of significance found in the County Environmental Thresholds and Guidelines Manual (County of Santa Barbara 2008). For assessing GHG impacts, the proposed Plan was evaluated for its consistency with the ECAP and state plans, policies, and regulations adopted for the purposes of reducing GHG emissions.

California Environmental Quality Act (CEQA) Guidelines

According to CEQA Guidelines Appendix G, implementation of the proposed Plan would have significant environmental impacts on air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is [in] non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

Additionally, according to CEQA Guidelines Appendix G, implementation of the proposed Plan would have significant environmental impacts on GHG emissions if it would:

- Generate [GHG] emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of [GHGs].

As stated in the Guidelines, these questions are “intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance” (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, VII Greenhouse Gas Emissions). The CEQA Guidelines require Lead Agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guidelines allow Lead Agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

County Environmental Thresholds

The County's significance thresholds are contained in its Environmental Thresholds and Guidelines Manual (County of Santa Barbara 2008). These thresholds are discussed below.

Air Quality

The County's Environmental Thresholds and Guidelines Manual states that a significant adverse air quality impact may occur when air pollutant emissions associated with a project, individually or cumulatively:

- Interferes with progress toward the attainment of the ozone standard by releasing emissions which equal or exceed the established long-term quantitative thresholds for NO_x and ROC; or
- Equals or exceeds the state or federal AAQS for any criteria pollutant (as determined by modeling).

The County's Environmental Thresholds and Guidelines Manual also states that for operational emissions, a proposed project would have a significant air quality effect on the environment, if operation of the project will:

- Emit (from all project sources, mobile and stationary), more than the daily trigger for offsets set in the SBCAPCD New Source Review Rule, for any pollutant; and
- Emit more than 25 pounds per day of oxides of NO_x or ROC from motor vehicle trips only; and
- Cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and
- Exceed the SBCAPCD health risk public notification threshold adopted by the SBCAPCD Board; and
- Conflict with consistency with the adopted federal and state Air Quality Plans.

Although the County has not adopted quantitative thresholds of significance for temporary construction emissions, the County's Environmental Thresholds and Guidelines Manual recommends discussion of construction-related emissions for all projects involving ground disturbance. In addition, since the County is a nonattainment area for the State PM₁₀ standard, construction mitigation measures are required for all projects involving earthmoving activities regardless of size or duration. Dust control measures are required under the County of Santa Barbara's Grading Ordinance. The standard dust mitigation measures are based on policies in the 1979 Air Quality Attainment Plan.

The Environmental Thresholds and Guidelines Manual also requires an analysis, if applicable, of the potential for a proposed project to either cause or subject a considerable number of people to odors or other air quality nuisance problems. A public nuisance is defined by the SBCAPCD Rule 303 as "...such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which may cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or of any such persons or to the public, or which cause, or have a natural tendency to cause injury or damage to business or property." The analysis may include projects that have the potential to cause odors, or projects that may subject potential sensitive receptors to nearby existing or proposed land uses that emit objectionable odors. Certain projects have the potential to cause significant odor impacts because of the nature of their operation and their location. These include fast food restaurants, bakeries, coffee roasting facilities, etc. Other projects may be new developments (e.g., residential areas or sensitive receptors), which have the potential to be affected by being located downwind of existing sources of odor. In addition, although the SBCAPCD has not adopted quantitative thresholds of significance for odor impacts, the SBCAPCD recommends the development of an Odor Abatement Plan (OAP) for projects that may generate nuisance odors that may affect a substantial number of people.

Greenhouse Gas Emissions

As discussed previously, the County has adopted its ECAP and certified the EIR prepared for the ECAP (County of Santa Barbara 2014b). The ECAP constitutes a local GHG reduction plan (per CEQA Guidelines Section 15183.5(b)), which will allow the County to significantly streamline GHG analysis on a project level by using it as a programmatic plan. It will allow the County to determine whether a future project's incremental contribution to the cumulative effect of climate change is significant or not, based upon compliance with requirements of the reduction plan in the ECAP. Local governments may generally use adopted plans consistent with CEQA Guidelines to assess the cumulative impacts of projects on climate change, when the adopted plan includes a certified EIR. The ECAP provides the most relevant guidance for assessing the impacts of the proposed Plan. For the purposes of this analysis, the proposed Plan was evaluated for its consistency with the ECAP and state plans, policies, and regulations adopted for the purposes of reducing GHG emissions.

On May 19, 2015, the County adopted a new threshold of significance for GHG Emissions for industrial stationary sources to meet emission reduction goals and targets. The threshold applies to the following GHG gases (per the California Health and Safety Code Section 38505(g)), and any other gas that the California Air Resources Board recognizes as a GHG in the future: CO₂, CH₄, NO_x, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, nitrogen trifluoride. The County recognizes that environmental documents will primarily focus on the first three chemicals, because the latter three are unlikely candidates to be associated with projects subject to this threshold. The threshold applies to industrial stationary sources subject to discretionary approvals by the County, where the County is the CEQA lead agency. The

threshold applies to both direct and indirect emissions of GHG, where protocols to support calculation of such emissions are available. All industrial stationary source projects would be subject to a numeric, bright line threshold of 1,000 MTCO₂e/year to determine if GHG emissions constitute a significant cumulative impact. Annual GHG emissions that are equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change. Projects found to result in a significant cumulative impact would be required to reduce their GHG emissions to the applicable threshold, where feasible, through on-site reductions and/or offsite reduction programs approved by the County. ~~If projects have significant cumulative impacts from GHG emissions, they will be required to reduce emissions down to the threshold through onsite and offsite mitigations.~~ The threshold will be reexamined at least every five years by the County to ensure its consistency with evolving GHG reduction progress, plans, targets, and regulations.

The threshold has been added as a new chapter in the *County's Environmental Thresholds and Guidelines Manual* (Chapter 11). The successful adoption of the new GHG emissions threshold will ensure modern CEQA guideline implementation for the County. In addition, the GHG threshold of significance is consistent with and implements the policies of the County Comprehensive Plan and Zoning, including the Coastal Land Use Plan and Coastal Zoning Ordinance. The County Board of Supervisors found that it is in the interest of the County residents to establish the GHG Threshold, and will help ensure the County's cohesive efforts to reduce emissions. The threshold does not apply to residential or commercial and considers the potential for incremental growth.

4.5.3.2 Impacts Determination and Mitigation Measures

Impacts

Impact AQ-1: Plan Consistency

The California Clean Air Act requires areas designated non-attainment of state ambient air quality standards for ozone, CO, SO₂, and NO₂ to prepare and implement plans to attain the standards by the earliest practicable date. As discussed in Section 4.5.2, the 2013 Clean Air Plan (CAP) provides an overview of air quality and sources of pollution, and identifies the pollution-control measures needed to meet clean air standards. The goal of the 2013 CAP is to reduce ozone precursor emissions from a wide variety of stationary and mobile sources. Each of the CAPs has implemented "an all feasible measures" strategy to ensure continued progress towards attainment of the state ozone standards.

The criteria pollutant emissions projections used to develop the CAP are based on population, ~~vehicle trends, and planned land uses~~ housing, and employment projections. The CAP relies ~~primarily on these land use and population projections~~ provided by the SBCAG and the SBAPCD on-road emissions forecast as a basis for ~~vehicle emissions~~ forecasting. The 2013 CAP utilized SBCAG's Regional Growth Forecast 2010-2040, housing, and employment projections to project population growth and associated air pollutant emissions for all of the

Santa Barbara County incorporated and unincorporated areas. Therefore, the current 2013 CAP includes growth projections for the unincorporated areas including the Plan Area.

As such, consistency with the CAP for proposed projects ~~are~~ can be evaluated by the growth anticipated from the most recently adopted SBCAG Regional Growth Forecast 2010-2040. ~~By definition~~ As stated by the SBCAPCD, “consistency with the CAP for the projects subject to these [the SBCAPCD] guidelines means that direct and indirect emissions associated with the project are accounted for in the CAP’s emissions growth assumptions, and that the project is consistent with the policies in the CAP” (SBCAPCD 2011). In the event that a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the CAP. In the event a project proposes development that is greater than anticipated in the growth projections, further analysis would be warranted to determine if the proposed project would exceed the growth projections used in the CAP for the specific subregional area.

The proposed Plan provides protection for and enhancement of the natural resources of the Plan Area, supports agricultural viability, and increases public access throughout the Plan Area while preserving the rural character of Gaviota Coast. As such, proposed changes in land use designations are intended to reflect existing land uses patterns and prevent pockets of small rural residential development from spreading to adjacent agricultural lands. The proposed Plan would not alter the buildout potential in the Plan Area. There are currently 234 single-family residences and 17 agricultural employee housing units within the Plan Area. Plan buildout over the 20-year Plan horizon is estimated to result in development of 167 additional single-family residences and 9 agricultural employee housing units within the Plan Area. An analysis of potential impacts related to consistency with air quality plans resulting from PRT Maps Amendments are discussed in Section 4.13.

As discussed above, the proposed Plan would be considered consistent with the 2013 CAP if it is consistent with anticipated growth in SBCAG’s most recent regional growth forecast. The proposed Plan does not alter the buildout potential of the Plan Area and new land use policies are intended to limit the expansion of residential development in favor of less intense, agricultural land uses. Therefore, growth under the proposed Plan would not exceed current growth projections and impacts would be less than significant.

Given the rural nature and limited development potential planned for the Plan Area, the proposed Plan does not include specific policies and development standards that seek to reduce air pollution in the Plan Area. As discussed in Section 4.5.2.2, the proposed Plan is consistent with SBCAG’s 2040 RTP-SCS goal of exceeding the zero net growth target by concentrating growth in core urban areas and protecting agriculture and open space land in the unincorporated areas from conversion to urban use. These steps are intended to limit the expansion of non-agricultural development into areas currently designated for agricultural land uses. The proposed Plan does contain policies that promote agriculture in appropriate areas of the Gaviota Coast which would be consistent with regional air quality plans and reduces potential impacts.

Mitigation

Impacts would be less than significant and no mitigation is required.

Residual Impacts

As impacts would be less than significant related to consistency with air quality plans, no residual impacts would remain (Class III impact).

Impact AQ-2: Criteria Pollutants

Operation

Operational emissions are long-term regional emissions that are contributed by area sources and mobile sources. The area sources generate emissions from the use of electricity and natural gas as well as from aerosols, lawn maintenance equipment, and other powered equipment and appliances. Mobile source emissions are those emanating from vehicles. Per County thresholds, a significant impact would occur if a project were to:

- Emit from all sources (both mobile and stationary), more than the daily trigger for offsets set in the SBCAPCD New Source Review Rule, for any pollutant; and
- Emit more than 25 pounds per day of NO_x or ROC from motor vehicle trips only

Air emissions were calculated using California Emissions Estimator Model (CalEEMod) 2013.2.2 (CAPCOA 2013). The results of the air emissions are included in Appendix F. The CalEEMod program is a tool used to estimate air emissions resulting from land development projects in the state of California. Area emissions are based on regional data such as average electrical and natural gas use, water consumption, and use of consumer products that emit pollutants. Annual electric and water consumption rates were revised based on recent changes to California Building Code (Title 24) in 2013 that require residential structures to be more energy and water efficient. Additionally, the energy intensity factor (the amount of emissions by utility providers per services) was reduced to reflect Southern California Edison's progress toward meeting 2020 Renewable Portfolio Standards.

Vehicle emissions are calculated based on trip generation rate and trip length. Vehicle emissions are estimated by first calculating trip rate, trip length, trip purpose, and trip type percentages (e.g., home to work, home to shop, home to other) for each land use type. Trip generation rates are based on the Institute of Transportation Engineers Trip Generation 8th Edition trip rates for each respective land use category, and trip lengths are based on the trip purpose and statewide averages. Vehicle emission factors and fleet mix are derived from the Emission Factors 2011 model. Vehicle emission factors include the effects from the implementation of some of the nation's toughest vehicle emissions standards as well as fuel formulation regulations.

As discussed previously, the proposed Plan is anticipated to result in the development of 167 additional single-family residences and 9 agricultural employee housing units within the Plan Area over the next 20 years. Future emissions due this anticipated development are summarized in Table 4.5-7.

	ROC ²	NO _x ²	PM ₁₀ ²
Area	9.7	0.2	0.1
Mobile	3.5	6.5	10.4
<u>Energy</u>	<u>0.2</u>	<u>1.5</u>	<u>0.1</u>
Total	<u>13.413.2</u>	<u>8.26.7</u>	<u>10.640.5</u>
County Threshold (All Sources)	55	55	80
Exceed Threshold (All Sources)?	No	No	No
County Threshold (Vehicles Only)	25	25	--
Exceed Threshold (Vehicles Only)?	No	No	--

¹ As the County is in non-attainment for the federal and state standards for ozone (precursor NO_x and ROC) and the state standard for PM₁₀, the established air quality thresholds are focused on these three pollutants.

² The summer emissions were reported per SBCAPCD Guidance.

It was calculated that this anticipated future development would result in 13.2 pounds per day of ROG, 6.7 pounds per day of NO_x, and 10.5 pounds per day of PM₁₀ (Appendix F). As calculated, operational emissions would be less than County adopted threshold of significance. Therefore, operational impacts associated with criteria pollutant emissions would be less than significant.

Construction

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include:

- Fugitive dust from grading activities;
- Construction equipment exhaust;
- Construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- Construction-related power consumption.

Air pollutants generated by the construction of projects within the Plan Area would vary depending upon the number of projects occurring simultaneously and the size of each individual project. Construction-related pollutants result from dust raised during demolition and grading, exhaust emissions from construction vehicles, and products used during construction.

Construction activity that would occur in conjunction with future development would cause temporary, short-term emissions of various air pollutants. NO_x would be emitted by the

operation of construction equipment, while fugitive dust (i.e., PM₁₀) would be emitted by activities that disturb the soil, such as grading and excavation.

Although the SBCAPCD has not adopted quantitative thresholds of significance for temporary short-term construction emissions, the SBCAPCD and the County's Environmental Thresholds Manual recommend quantification of construction related NO_x, ROC, PM₁₀, and PM_{2.5} emissions from diesel and gasoline powered equipment, paving, and other activities. Total construction emissions due to the development of all 167 additional single-family residences and 9 agricultural units were calculated for informational purposes. It should be noted that not all of these units would be constructed simultaneously, and not all of these emission would occur simultaneously. Rather, construction activities would involve limited ground disturbance and building construction over a 20-year period. Construction-related emissions for the proposed Plan are quantified from CalEEMod in (Appendix F) Air Calculations and summarized in Table 4.5-8.

Because the County is in a nonattainment area for the State PM₁₀ standard, dust mitigation measures are required for all projects involving earthmoving activities regardless of size or duration. According to the APCD, implementation of required measures reduces fugitive dust emissions to a less than significant level (SBCAPCD 2008).

Under APCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source that requires an Authority to Construct have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard be violated.

	ROC²	NO_x²	PM₁₀²	PM_{2.5}
<u>Total Maximum Daily Emissions (pounds)</u>	72	198	22	<u>3</u>
<u>Average Annual Emissions (tons)</u>	<u>0.4</u>	<u>1.0</u>	<u>0.1</u>	<u>0.1</u>

No major or large-scale construction operations would occur under the proposed Plan. Buildout of the Plan Area would include development of 167 additional single-family residences and 9 agricultural employee housing units. These units would not all be constructed simultaneously. Rather, construction activities would involve limited ground disturbance and building construction over a 20-year period. This limited amount of development would not result in substantial emissions from construction-related activities. An analysis of potential impacts related to criteria pollutants resulting from PRT Maps Amendments are discussed in Section 4.13.

Since the County is a nonattainment area for the State PM₁₀ standard, construction mitigation measures are required for all projects involving earthmoving activities regardless of size or duration, as stated above. Dust control measures are required under the County's Grading

Ordinance. The standard dust mitigation measures are based on policies in the 1979 Air Quality Attainment Plan. Due to the rural nature and limited development potential of Plan Area, the proposed Plan does not include specific policies and development standards that address criteria pollutants in the Plan Area. However, the Plan Area does not propose new uses or an intensity of uses that require additional policies to limit the potential criteria pollutant emissions. Taken individually, construction activities are not generally considered to have significant air quality impacts because of their short-term and temporary nature along with the application of standard dust control measures. An exceedance of AAQS is not expected to occur. Therefore, construction impacts associated with criteria pollutant emissions would be less than significant.

Mitigation

Impacts would be less than significant and no mitigation is required.

Residual Impacts

As impacts would be less than significant for criteria pollutants, no residual impacts would remain (Class III impact).

Impact AQ-3: Sensitive Receptors

Stationary Toxic Air Contaminant Sources

CARB produced the Air Quality and Land Use Handbook: A Community Health Perspective (Handbook), which among other information, provides advisory guidance of local agencies for the siting of air quality sensitive land uses to reduce potential cancer risks (CARB 2005). The Handbook contains Recommendations on Siting New Sensitive Land Uses, which set minimum offsets between sensitive land uses and specific sources of air pollution. The sensitive land uses identified by CARB include residences, schools, daycare centers, playgrounds, and medical facilities, and locating these sensitive receptors near these sources would result in potential to exceed limits and health risks. Specific sources of air pollution are identified as: freeways and high-traffic roads, distribution centers, rail yards, ports, petroleum refineries, chrome plating facilities, dry cleaners, and large gas dispensing facilities. The study of California freeways detailed in the Handbook also showed about a 70 percent drop off in particulate pollution levels at 500 feet (CARB 2005).

The two roadways with the highest traffic volume in the Plan Area are Highway 1 and Highway 101. The average daily traffic on these roadways in the Plan Area is 6,600 and 31,500 ADT (Caltrans 2013). The Handbook sites the basis for its recommendations on high traffic freeway and roads as Section 17213 of the California Education Code (EDC) and 21151.8 of the Public Resources Code (PRC). These sources define a freeway or other busy traffic corridor as a roadway that has traffic in excess of 50,000 ADT in a rural area or 100,000 ADT in an urban

area (EDC 2008; PRC 2008). Per the guidance provided in the Land Use Handbook, siting recommendations are applicable to any freeway regardless of its traffic volume, therefore the Handbook's siting recommendations would be applicable to new sensitive uses within 500 feet of Highway 101 in the Plan Area. ~~Although Highway 1 and 101 in Santa Barbara County do not meet the definition of a high-traffic roadway, SBCAPCD considers the Handbook's siting recommendations as applicable to any freeway regardless of its traffic volume (Wilburton, 2015). Thus, SBCAPCD considers the Handbook's recommendations applicable to the siting of new sensitive uses within 500 feet of Highway 1 or 101 in the Plan Area.~~

However, the proposed Plan does not propose any new significant development potential that would cause high traffic volumes on the freeways. Policies in the proposed Plan limit development potential in favor of smaller, agricultural uses in suitable lots. Thus, no existing or proposed uses are anticipated to be exposed to substantial increases in pollutants or increases in cancer risk from adoption of the proposed Plan. In addition, the proposed Plan does not propose high density residential development within 500 feet of Highway 101. It is possible that several new residences could be proposed on vacant parcels that are located within 500 feet of Highway 101. However, these numbers are low and most parcels are large enough that the residences could be sited more than 500 feet from the highway. Therefore, impacts would be less than significant.

As discussed in Section 4.5.1.2(b), ExxonMobil's Las Flores Canyon Oil and Gas Processing Plant, Gaviota Oil Heating Facility, Tajiguas Landfill and electric generator are located within the Plan Area. The plants are permitted stationary sources. The proposed Plan would not alter the plant operations, and emissions will continue to be regulated by the SBCAPCD. Adoption of the Plan would not increase the amount of pollutants produced by the plants or propose new ~~receivers-receptors~~ adjacent to the plants. However, these stationary emission facilities in the Plan Area emit one or more of the 244 substances that have either been recognized by CARB as TACs in California or are known or suspected to be emitted in California and have potential adverse health effects, as identified by the CARB TAC Identification Program (CARB 1999 [and continually updated]). Future development potential near the oil and gas processing facilities in the Plan Area will need to undergo careful siting in order to avoid adverse health risks and impacts to the public. SBCPCD regulates and monitors air quality through monitoring stations located in the unincorporated and incorporated areas, including the Plan Area, to ensure safe air quality levels.

Although existing stationary sources of air pollution are located in the Plan Area, the proposed Plan does not include land use changes that would alter plant operations and result in an increase in new stationary sources of pollutants and TAC emissions. The proposed Plan does not include land use or zoning changes that would result in the location of new sensitive land uses adjacent to the existing stationary sources of air pollution and TACs. Any existing and potential future proposed stationary sources in the Plan Area would continue to be subject to SBCAPCD regulation, permitting requirements, and monitoring. Therefore, adoption of the proposed Plan would not increase the amount of pollutants and TACs produced by stationary

sources, and does not propose to locate new sensitive land use ~~receivers~~ receptors adjacent to the plants. As a result, the proposed Plan's potential to expose sensitive receptors to ~~new or~~ existing stationary pollutants and TAC sources would be less than significant.

Carbon Monoxide Hotspots

The County previously monitored emissions associated with CO near congested intersections. A CO "hotspot" can form at congested signalized intersections if a project contributes 800 peak hour trips or more at an existing congested intersection at level of service (LOS) D or below, or will cause an intersection to reach LOS D or below (County of Santa Barbara 2008). As the Plan Area does not contain signalized intersections there is no potential for CO hotspots to occur. Additionally, implementation of the proposed Plan is expected to result in only a nominal increase in traffic. Due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the CO health-related air quality standards. As a result, CO Hotspot analyses are not required in the County consistent with SBCAPCD the Scope and Content of Air Quality Sections in Environmental Documents (SBCAPCD 2015). Therefore, ~~no CO Hotspots are located in the Plan Area and~~ impacts to localized air quality from CO emissions as a result of implementation of the proposed Plan would be less than significant.

Given the rural nature and limited development potential in the Plan Area, the proposed Plan does not include specific policies related to sensitive receptors. The rural setting of the Plan Area and the absence of proposed land use changes adjacent to existing stationary sources or TACs minimizes adverse health risks to sensitive receptors. In addition, the proposed Plan does not propose new stationary sources of emissions or TACs. As a result, Plan adoption would not expose sensitive receptors in the Plan Area to adverse air pollution and TACs. Any existing and potential future proposed stationary sources in the Plan Area will continue to be subject to County and SBCAPCD regulation, permitting requirements, and monitoring. Therefore, no significant impact would result.

Mitigation

Impacts to sensitive receptors would be less than significant and no mitigation is required.

However, because some residential development could potentially occur on parcels that are located within 500 feet of Highway 101, the following mitigation is recommended to minimize exposure to TACs associated with Highway 101.

MM AQ-1 Sensitive Receptors (Recommended)

The following new development standards should be added to the Plan:

- **Dev Std LU-5: Air Quality Siting and Design.** Development that provides housing or care facilities shall establish adequate buffers from sources of air pollution. Future projects shall be designed to minimize exposure to roadway-related pollutants, and exposure shall be mitigated to the maximum extent feasible. Design features may include but not be limited to maximizing the distance between Highway 101 and sensitive receptors and locating air intake at the non-roadway facing sides of buildings.
- **Dev Std LU-6: Ventilation Systems.** Ventilation systems that are rated at a Minimum Efficiency Reporting Value of “MERV13” or better for enhanced particulate removal efficiency shall be provided on all residential units located within 500 feet of Highway 101. The residents of these units shall also be provided information regarding filter maintenance/replacement.
- **Dev Std LU-7: Air Quality Disclosure Statement.** Future project applicants of residential developments within 500 feet of Highway 101 shall be required to record a “Notice to Property Owner” that provides an Air Quality Disclosure Statement to potential buyers, summarizing the results of technical studies that reflect a health concern resulting from exposure of children to air quality emissions generated within 500 feet of Highway 101.

Residual Impacts

As impacts would be less than significant to sensitive receptors, no residual impacts would remain (Class III impact).

Impact AQ-4: Odors

Certain projects have the potential to cause substantial odors resulting from the nature of their operation and their location relative to wind dispersal patterns. Existing and future residential sensitive receptors located downwind of existing and/or future sources of odor have the potential to be impacted. Typical odor sources include land uses such as fast food restaurants, bakeries, coffee roasting facilities, auto body shops, service stations, and laundry/dry cleaning.

Potential odor-generating land uses in the Plan Area include one parcel designated for Highway Commercial (CH), three parcels designated for Coastal Dependent Industry (M-CD), and the Tajiguas Landfill. The Highway Commercial (CH) property is vacant. The coastal dependent industries include the ExxonMobil Las Flores Canyon Oil and Gas Processing Plant, and Gaviota Oil Heating Facility discussed above under Impact AQ-3. These existing oil and gas operations have the potential to expose new receptors to objectionable odors, such as Hydrocarbons. However, no major or large-scale development operations would occur under

the proposed Plan. Buildout of the Plan Area would include development of 167 additional single-family residences and 9 agricultural employee housing units. These units would not all be constructed simultaneously, and would not be located in close proximity to the existing odor sources. Rather, construction activities would involve limited ground disturbance and building construction over a 20-year period. The limited amount of potential odor-generating land uses would not result in substantial exposure of objectionable odors to new receptors in the Plan Area.

The Tajiguas Landfill is a non-hazardous solid waste disposal facility owned by the County and managed by the County's Public Works Department. To the east and adjacent to the landfill is the Baron Ranch (1,000 acres) purchased by the County to serve as a buffer zone between the landfill and neighboring ranches. The Tajiguas Landfill currently has an approved Resource Recovery Project (RRP). The RRP includes the addition of a Materials Recovery Facility and Anaerobic Digestion Facility. The Anaerobic Digestion Facility would convert all organic matter recovered from the municipal solid waste into compost, soil amendment, and biogas. There are concerns that the new Anaerobic Digestion Facility will produce objectionable odors. However, the proposed Plan does not provide for new development potential near the Tajiguas Landfill, and does not propose any potential sources of significant odors. Therefore, Plan adoption would not result in a substantial amount of people affected by objectionable odors. The Tajiguas Landfill has received no odor complaints over the past 10 years and is located in a remote area away from urbanized centers (County of Santa Barbara 2014b). Thus, these land uses are not anticipated to expose a substantial number of people to objectionable odors.

As discussed, the Plan Area is dominated by agricultural uses and open space. Agricultural activity can create odors that some people can perceive as being objectionable. Cattle grazing is the primary agricultural use in the western Plan Area. Agricultural operations in the eastern Plan Area support cattle operations as well as a wide variety of crops including avocado, citrus and cherimoya orchards, flowers, cattle grazing, and an abalone aquaculture operation near Dos Pueblos Creek. In addition, composting is a typical activity allowed in agricultural zones. The proposed Plan recognizes that agriculture is an important identity of the community. Agriculture is addressed in the Comprehensive Plan in the Land Use and Agricultural Elements. The key policy approach for agriculture in the County is the preservation of productive land for agriculture. Agricultural Element Policy I.E. states, "[T]he County shall recognize that the generation of noise, smoke, odor, and dust is a natural consequence of the normal agricultural practices provided that agriculturalists exercise reasonable measures to minimize such effects".

As the proposed Plan does not propose any potential sources of significant odor or placement of receptors adjacent to existing odor sources, it is not anticipated that the proposed Plan would result in objectionable odors affecting a substantial number of people. In addition, the proposed Plan does not include development potential located directly near the existing odor sources. Impacts associated with odors would be less than significant.

Mitigation

Impacts would be less than significant and no mitigation is required.

Residual Impacts

As odor impacts would be less than significant, no residual impacts would remain (Class III impact).

Impact AQ-5: GHG Emissions

The proposed Plan would not alter the buildout potential in the Plan Area. There are currently 234 single-family residences and 17 agricultural employee housing units within the Plan Area. Plan buildout over the 20-year Plan horizon is estimated to result in development of 167 additional single-family residences and 9 agricultural employee housing units within the Plan Area. This development would not occur all at once; rather, it would have the potential to occur over a 20-year period. To determine the significance of the proposed Plan's GHG impacts, the proposed Plan was evaluated for its consistency with the ECAP and state plans, policies, and regulations adopted for the purposes of reducing GHG emissions.

The ECAP was developed in order to demonstrate how the County would meet the objectives of AB 32 and provide a mechanism that subsequent projects within the County may use as a means to address GHG impacts under CEQA. By being consistent with the ECAP GHG reduction measures, a project would in turn be consistent with the CARB Scoping Plan and AB 32 goals. The ECAP would implement several emissions reduction measures across multiple sectors to achieve community-wide GHG emission reductions. These emission reduction measures would provide a reduction in both GHG emissions and energy use in the County. The actions will assist the state in meeting its GHG reduction and energy use goals. The measures identified and the associated reductions are supported by other sources including CAPCOA and CARB guidance on GHG reduction measures.

Emission reduction measures proposed for the ECAP are organized by topic area and include:

- Sustainable Communities Strategy
- Community Choice Energy
- Land Use Design
- Transportation
- Built Environment
- Renewable Energy
- Industrial Energy Efficiency
- Waste Reduction
- Agriculture
- Government Operations
- Water Efficiency

Additional ECAP emission reduction measures applicable to individual development applications are addressed through the building permit review and approval phase. These include Energy Efficiency and Green Building Standards (identified as BE 8 in the ECAP), Efficient Building Design (BE 9), Construction Equipment Operations (BE 10), and Construction and Demolition Waste Recycling (WR 3). Any future development within the Plan Area would need to comply with these measures.

The ECAP meets the minimum criteria for a Qualified GHG Reduction Plan and allows the County to use the adopted ECAP and certified EIR for programmatic CEQA tiering of future development. To accomplish this, the ECAP framework is designed to fulfill the requirements identified in CEQA Guidelines Section 15183.5(b).

The ECAP is designed to mitigate the impacts of climate change and achieve meaningful GHG reductions by implementing goals and strategies within the County, consistent with AB 32, EO S-3-05, and to provide a mechanism that subsequent projects within the County may use as a means to address GHG impacts under CEQA. By being consistent with the ECAP GHG reduction measures, a project would in turn be consistent with the CARB Scoping Plan and AB 32 goals. Population and growth projections associated with Plan buildout are accounted for in the adopted ECAP. ~~In addition, the proposed Plan does not include the development of new stationary sources of emissions, and would not contribute new significant sources of GHG emissions. Additionally, potential projects in the future would be subject to the County's Industrial Stationary Source GHG Threshold of Significance. Therefore, GHG emission impacts would be less than significant.~~

The proposed Plan does not propose the development of new stationary sources of emissions, and would not contribute new significant sources of GHG emissions. However, the Plan Area supports such existing uses, and similar projects associated with these uses could occur in the future. Under such circumstances, new projects with stationary sources of emissions would be subject to the County's new Industrial Stationary Source GHG Threshold of Significance discussed under Section 4.5.3.1 above.

Plan policies would complement regional goals to reduce GHG emissions. Land Use Policies LU-3 and LU-9 would limit and focus growth. Increasing development density by clustering development reduces people's travel distances and provides a foundation for implementation of many other strategies that benefit from increased densities. This can result in a reduction in vehicle miles traveled (CAPCOA 2010). Land Use and Transportation, Energy, and Infrastructure policies promote development of alternative energy systems, reducing utilities consumption, and reducing waste generation. These policies would also reduce GHG emissions from supporting infrastructure. For example, reducing electricity consumption or developing alternative energy sources indirectly reduces GHG emissions from existing electrical plants. As there are proposed Plan policies, ECAP measures, and County thresholds that serve to support regional GHG reduction strategies.

Mitigation

Impacts would be less than significant and no mitigation is required.

Residual Impacts

As impacts would be less than significant, no residual impacts would remain (Class III impact).

4.5.4 Cumulative Impacts Analysis

Impacts

Air Quality

The County's Environmental Thresholds and Guidelines Manual indicate that potential regional and localized cumulative impacts should be assessed. Analysis of potential regional impacts should be based on consistency with existing plans such as the Air Quality Action Plan (i.e., 2013 Clean Air Plan) and analysis of potential localized impacts should be based on the project's contribution to background level.

The 2013 CAP was developed to attain ambient air quality standards in the County of Santa Barbara. Thus, the cumulative study area for air quality is considered to be the County. The 2013 CAP and SIP are based on population, housing, and employment growth forecasts for the region, which are in turn based on maximum buildout of land uses as allowed in the adopted community and general plans. According to the SBCAPCD, "consistency with the CAP for the projects...means that direct and indirect emissions associated with the project are accounted for in the CAP's emissions growth assumptions and the project is consistent with policies adopted in the CAP" (SBCAPCD 2011). Therefore, potential cumulative air quality impacts would be thus be reduced through achievement of less than significant if emission levels the project can demonstrate its emissions are accounted for in the CAP and that it is consistent with the reduction policies strategies identified in the 2013 CAP. While, the CAP does not provide an emission estimate for each parcel or community within its jurisdiction, the emissions estimates are based, in large part, on the SBCAG Regional Growth Forecast, which is based on the most recent census, and the most recent housing element and general plans of local jurisdictions. With regard to ozone precursors ROG_s and NO_x, in general, if a project is consistent with the adopted land use designations and intensity, it has been accounted for in the ozone and other criteria pollutant and TAC attainment demonstrations contained within the SIP, and would not result in a cumulatively considerable ambient air quality impact. In this case, Therefore, the most recent adopted 2013 CAP is based on the adopted 1993-1991 Santa Barbara County GCP Comprehensive Plan. As discussed under AQ-1, the proposed Plan is consistent with the 2013 CAP and SIP 1991 Comprehensive Plan and would and thus would not result in a cumulatively considerable ambient air quality impact. Therefore, cumulative regional impacts would be less than significant.

Additionally, as discussed under AQ-2 and AQ-3, the proposed Plan would not result in significant emissions that would exceed AAQS, and would not result in the exposure of sensitive receptors to substantial pollution concentrations, with the incorporation of MM AQ-1. Therefore, as total development under the proposed Plan would not exceed project-level significance thresholds, cumulative localized impacts would be less than significant.

As discussed under AQ-4, no major or large-scale development operations would occur under the proposed plan. The limited amount of potential odor-generating land uses would not result in substantial exposure of objectionable odors to new receptors in the Plan Area. Therefore, cumulative odor impacts in the Plan Area would be less than significant (Class III).

GHG Emissions

Global climate change is, by its nature, a cumulative issue. In general, the proposed Plan policies are consistent with the intent of the GHG reduction measures identified in both the 2010 CAPCOA GHG Mitigation Measures report (CAPCOA 2010) and the 2008 CARB Scoping Plan. ~~Where practicable, GHG reductions have been included in the quantification of the proposed Plan's GHG emissions. In the quantification of the proposed Plan GHG emissions, GHG reductions were accounted for vehicle emissions and energy emissions. Subsequent projects would achieve further GHG reductions in these emissions sources, as well as in the area source, water use, construction, and solid waste GHG emissions through project-specific design features.~~ Given the cumulative nature of GHG impacts, the anticipated development associated with buildout and implementation of the proposed Plan are assessed by analyzing the proposed Plan's consistency with the County's recently adopted ECAP, which relied on the same anticipated buildout.

~~In addition,~~ The ECAP was adopted by the County and designed to mitigate the impacts of climate change and achieve meaningful GHG reductions by implementing goals and strategies within the County, consistent with AB 32 and EO S-3-05, and to provide a mechanism that subsequent projects within the County may use as a means to address project level GHG impacts under CEQA. As discussed under AQ-5, by being consistent with the ECAP GHG reduction measures, a project in the Plan Area would in turn be consistent with the CARB Scoping Plan and AB 32 goals. The ECAP accounts for Plan buildout population and growth projections. As demonstrated, the proposed Plan would be consistent with the ECAP and state plans, policies, and regulations adopted for the purposes of reducing GHG emissions. As such, cumulative GHG impacts would be less than significant.

Mitigation

Cumulative air quality impacts would be less than significant and no mitigation is required.

Residual Impacts

As cumulative impacts to air quality would be less than significant, no residual impacts would remain (Class III impact).

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