3. Air Quality

3.1 BACKGROUND AND CONTEXT

3.1.1 Ozone Air Pollutants

Ozone is known as a secondary pollutant because it is formed in the atmosphere through a complex series of chemical reactions, rather than emitted directly into the air. *Ozone* is created when *reactive organic compounds (ROC)* and *oxides of nitrogen (NOx)* chemically react with sunlight. The major sources of *NOx* in Ventura County are motor vehicles and other combustion processes. The major sources of *ROC* in Ventura County are motor vehicles, cleaning and coating operations, petroleum production and marketing operations, and solvent evaporation.

California is divided into 15 air basins, which are geographic areas that exhibit similar meteorological and geographic conditions. Ventura County is located in the South Central Coast air basin and is under the jurisdiction of the Ventura County Air Pollution Control District (VCAPCD). Ventura County is currently designated as a *nonattainment area* for *ozone* under the 1-hour and 8-hour California Ambient Air Quality Standards (CAAQS) and the 8-hour National Ambient Air Quality Standards (NAAQS). Ambient air quality standards are maximum acceptable average concentrations of air pollutants during a specified period of time, calculated as described in the regulations specifying the standard. Additionally, Ventura County is listed as a *nonattainment area* for the 24-hour and mean CAAQS for respirable *particulate matter (PM)* with an aerodynamic diameter of 10 micrometers or less (*PM10*).

3.1.2 Other Air Pollutants

Toxic air contaminants (TACs), or hazardous air pollutants, are regulated in California primarily through the TAC Identification and Control Act (Assembly Bill (AB) 1807, Chapter 1047, Statutes of 1983), as well as the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 set forth a formal procedure for the California Air Resources Board (CARB) to designate substances such as *TACs*. To date, CARB has identified 23 *TACs* and adopted the Environmental Protection Agency's list of hazardous air pollutants as *TACs*. CARB added diesel *PM* (*PM2.5*) to the list of *TACs* in 1998.

Internal combustion engines are the primary source of diesel *PM* in Ventura County. There are several hundred *stationary sources* in Ventura County that emit toxic substances and are subject to AB 2588. The majority of locations are concentrated in incorporated or developed areas, including the cities of Oxnard, Camarillo, Thousand Oaks, Simi Valley, Ventura, Ojai, Santa Paula, and Fillmore (see Figure 8-3 in the Ventura County General Plan Background Report). The primary purpose of AB 2588 is to notify the public of facilities that have routine and predictable emissions of toxic air pollutants that may pose a significant health risk to nearby residents and workers. AB 2588 also encourages those facilities to reduce the health risk to below the level of significance.

Ventura County is not classified as having the potential to contain serpentine bedrock. Thus, there is no potential for naturally occurring asbestos in the unincorporated county.

PM, also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. *PM* is measured by two sizes: course particles (*PM10*), or particles between 2.5 and 10

micrometers in diameter; and fine particles (*PM2.5*), or particles less than 2.5 micrometers in diameter. The primary sources of *PM10* include dust, paved and unpaved roads, diesel exhaust, acidic aerosols, construction and demolition operations, soil and wind erosion, agricultural operations, residential wood combustion, and smoke. Secondary sources of *PM10* include tailpipe emissions and industrial sources. Road dust is composed of many particles other than soil dust. It also includes engine exhaust, tire rubber, oil, and truck load spills. Diesel exhaust contains many toxic particle and elemental carbon (soot) and is considered a *TAC* in California. *PM2.5* particles are emitted from activities such as industrial and residential combustion processes, wood burning, and from diesel and gasoline-powered vehicles. They are also formed in the atmosphere from gases such as sulfur dioxide, nitrogen oxides, ammonia, and volatile organic compounds that are emitted from combustion activities, and then become particles as a result of chemical transformations in the air (secondary particles).

3.2 THRESHOLDS OF SIGNIFICANCE

The determination of significance shall be made on a case-by-case basis and evaluated using the following thresholds of significance as specified below and in further detail in the *Air Quality Assessment Guidelines (AQAG)*.

AIR-1 A project may have a significant impact if it would exceed 2 pounds per day or greater for *ROC* or *NOx*, as described in the *AQAG*, and cause a significant environmental impact due to a conflict with or obstruct implementation of the *Air Quality Management Plan (AQMP)*.

AIR-2 A project may have a significant impact if it would result in a cumulatively considerable net increase of a *criteria pollutant* for which the region is in non-attainment of the applicable federal or state standard.

AIR-3 A project may have a significant impact if it would expose *sensitive receptors* to substantial pollutant concentrations such as, but not limited to, *TACs*, dust, and odors.

3.3 IMPACT ANALYSIS

Guidance on addressing the questions from the Initial Study Checklist are provided below. In order to determine whether project impacts exceed or meet the criteria of the thresholds of significance in Section 3.2, the level of impact shall be evaluated based on the appropriate assessment methodologies as outlined below and specified in further detail in the *AQAG*.

(a) Would the project exceed 2 pounds per day or greater for ROC or NOx, as described in the AQAG, and cause a significant environmental impact due to a conflict with or obstruction of the implementation of the AQMP?

As of March 2024, Ventura County is in nonattainment for *ozone* with respect to the CAAQS. As a result, the *AQMP ozone* control strategy consists of *stationary source* and transportation control measures, conformity with federal regulations, the State *Mobile Source* Strategy, reasonably available control measures, incentives, and smart growth policies and programs. *Stationary source* control measures include vapor collection systems on gasoline and oil storage tanks, and landfill gas recovery systems. These measures are included in rules adopted by VCAPCD. Other VCAPCD rules may impose emission limits or require cost effective emission reduction measures. These rules

can result in the use of emission reducing technology such as low-*NOx* burners, selective catalytic reduction, or using electric motors instead of internal combustion engines. Transportation control measures include trip reduction strategies, use of more fuel-efficient vehicles (e.g., hybrid, electric, hydrogen, etc.), vehicle miles traveled reduction, higher vehicle occupancy goals, and technological improvements. Consult the most recent *AQMP* as adopted by VCAPCD for the most up-to-date *ozone* control strategy.

The environmental document for proposed discretionary projects must address project consistency with the *AQMP*. Per the *AQAG*, project consistency with the *AQMP* is currently determined by comparing a project's expected population growth with the *AQMP*'s projected growth rates for the County Growth or Non-Growth Area as identified in the *AQMP*. The projected population growth rate is used as an indicator of future emissions from population-related emission categories in the *AQMP*. These emission estimates are used, in part, to project the date by which Ventura County will attain the federal *ozone* standard. The Ventura County Resource Management Agency Planning Division maintains an ongoing population tracking system to determine the existing population baseline for the project location. Therefore, a demonstration of consistency with the population forecasts used in the most recently adopted *AQMP* should be used for assessing project consistency with the *AQMP*. The procedures for determining project consistency with the *AQMP* are found in the *AQAG*.

(b) Would the project result in a cumulatively considerable net increase of a criteria pollutant for which the region is in non-attainment of the applicable federal or state standard?

The *criteria pollutant* thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health.

In consideration of new and more stringent NAAQS and CAAQS adopted since 2000, VCAPCD identified numerical thresholds for project-generated emissions of *ozone precursors* (e.g., *ROC* and *NOx*) that would determine whether a project's non-VCAPCD permitted emissions would result in a cumulative, regional contribution (i.e., significant) to the baseline nonattainment status of Ventura County. These specific thresholds are found in the *AQAG* which, as of March 2024, are 25 pounds per day of *ROC* and *NOx* for all areas of Ventura County except the Ojai Planning Area (as defined in the *AQAG*), and 5 pounds per day of *ROC* and *NOx* in the Ojai Planning Area. These quantitative thresholds of significance for project-level evaluation shall be used to determine the extent to which a project's emissions of *ROC* and *NOx* would contribute to regional degradation of ambient air quality within Ventura County. In addition, VCAPCD recommends using the air emissions model CalEEMod in place of the model indicated in the *AQAG* to calculate a project's emissions, although model use and intent in the *AQAG* still applies.

The above-stated quantitative thresholds of significance apply to a project's operational (but not construction) emissions from non-VCAPCD permitted emission sources which primarily consist of *mobile sources*. In accordance with the *AQAG*, only non-VCAPCD permitted emissions during a project's operations (but not construction) count toward these quantitative thresholds. VCAPCD-permitted sources which, in general, consist of *stationary sources*, are not counted toward the quantitative thresholds because the VCAPCD's regulatory and permitting program constitutes mitigation for *criteria pollutant* air quality impacts under the California Environmental Quality Act. However, for purposes of disclosure and discretionary project consideration, the environmental document shall quantify a project's total operational *criteria pollutant* emissions from all sources,

including VCAPCD-permitted sources. The environmental document shall also identify all VCAPCD permits that the project will be required to obtain.

(c) Would the project expose sensitive receptors to substantial pollutant concentrations, such as, but not limited to, TACs, dust, and odors?

Toxic Air Contaminants

Using federal and state guidance pertaining to *TACs*, VCAPCD adopted cancer risk thresholds, which are contained in the *AQAG*, that were developed by the state Office of Environmental Health Hazard Assessment for *TAC* exposure. Unlike criteria air pollutants, there is no known safe concentrations of *TACs*. Moreover, *TAC* emissions contribute to the deterioration of localized air quality because of the dispersion characteristics of *TAC* emissions that do not cause regional-scale air quality impacts. The thresholds are designed to ensure that a source of *TACs* does not contribute to a localized, significant impact to existing or new receptors. The thresholds for *TACs* and additional guidance on assessing *TAC* emissions are, as of March 2024, found in Section 6 of the *AQAG*.

Proposed new land uses that will be located within one-quarter mile of an existing source (or sources) of *TACs* should be evaluated for the potential to be impacted by those *TACs*. When processing a land use entitlement for a project near an existing source of *TAC* emissions, consult with VCAPCD's Air Toxics Section to review any toxic air emissions information, especially health risk assessments, that VCAPCD may have regarding that source of *TAC* emissions. Such information may have been gathered by the VCAPCD pursuant to the District's AB 2588 Air Toxics "Hot Spots" Program and as part of the air pollution permit process for facilities that require air pollution permits.

Fugitive Dust

Fugitive dust or *PM* is mostly generated during construction activities of a project. As a result, the VCAPCD recommends emission reduction measures such as the use of water trucks, 15 miles per hour speed limit signs, rumble strips, covering truck loads, and other measures to comply with VCAPCD Rule 51, Nuisance, and Rule 55, Fugitive Dust. Pursuant to Ventura County General Plan Program HAZ-Z, discretionary development projects that will generate construction-related fugitive dust emissions shall be required to include dust reduction measures recommended by VCAPCD in its *AQAG*, or otherwise, such as:

- The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized to prevent excess amounts of dust.
- Pre-grading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation operations. Application of watering (preferably reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.
- Fugitive dust produced during grading, excavation, and construction activities shall be controlled by the following activities:
    - All trucks shall be required to cover their loads as required by California Vehicle Code Section 23114.
    - All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic

watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering shall be done as often as necessary and reclaimed water shall be used whenever possible.

- Graded and/or excavated inactive areas of the construction site shall be monitored by (indicate by whom) at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe dust control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.
- Signs shall be posted on-site limiting traffic to 15 miles per hour or less.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact *adjacent* properties), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off-site or on-site. The site superintendent/supervisor shall use his/her discretion in conjunction with VCAPCD when winds are excessive.
- *Adjacent* streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to *adjacent* streets and roads.
- Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

VCAPCD Rule 55 defines a wind speed of 25 miles per hour or more as sufficient to cause fugitive dust that could impact *adjacent* properties when they are sustained for at least five minutes in any one-hour period as measured by an anemometer with a minimum resolution of one mile per hour. Under sustained high wind conditions, earth-moving active operations should either cease, or water shall be applied to the soil in the work area prior to commencing earth-moving activities.

Construction Criteria Pollutant Emissions

Pursuant to Ventura County General Plan Policy HAZ-10.13 and Ventura County General Plan Program HAZ-Y, discretionary development projects that may generate construction-related *criteria pollutant* emissions above the *AQAG* quantitative *criteria pollutant* threshold for project operations are required to include the following types of emission reduction measures and potentially others, as recommended by VCAPCD in its *AQAG* or otherwise, to the extent applicable to the project as determined by the County: maintaining equipment per manufacturer specifications; lengthening construction duration to minimize number of vehicle and equipment operating at the same time during the summer months; use of Tier 3 at a minimum, or Tier 4 if commercially available diesel engines in all off-road construction diesel equipment; and, if *feasible* using electric-powered or other alternative fueled equipment in place of diesel powered equipment.

Carbon Monoxide Hot Spots

VCAPCD no longer recommends the *AQAG* methodology for carbon monoxide (CO) hotspots, as CO hotspots are defined as locations where ambient CO concentrations exceed the CAAQS (20 parts

per million (ppm) for 1-hour standard, 9 ppm for 8-hour standard). The NAAQS for CO is 35 ppm for 1-hour standard and 9 ppm for the 8-hour standard. In Ventura County, ambient air monitoring for CO stopped in 2004, with the approval of the U.S. Environmental Protection Agency – Region 9, because CO background concentrations in El Rio, Simi Valley, and Ojai were much lower than the CAAQS [highest recorded CO background concentration in Ventura County was in Simi Valley at 6.2 ppm for 1-hour, 1.6 ppm for 8-hour (*AQAG*, Table 6-2)]. Therefore, no CO hotspots are expected to occur in the unincorporated area. In addition, with over 80 percent of the CO in urban areas emitted by motor vehicles, and with stricter, cleaner emission standards to the mobile fleet, CO ambient concentrations should remain at or lower than the most recent CO monitoring data available for Ventura County.

Odors

The *AQAG* includes methodology and guidance on identifying and mitigating potential odor impacts that could result from siting a new odor source near *sensitive receptors* or siting a new sensitive receptor near an existing odor source. Examples of land uses that have the potential to generate considerable odors include, but are not limited to, wastewater treatment and pumping facilities, landfills, recycling and composting stations, food manufacturing and services, refineries, and chemical plants.

3.4 RESOURCES & REFERENCES

Source	Managing Agency/Organization	Online Access
Resources		
Ventura County CEQA Implementation Manual	Ventura County Resource Management Agency (RMA) Planning Division	PDF | Website
Ventura County Initial Study Assessment Guidelines, Introduction	Ventura County RMA Planning Division	PDF | Website
Ventura County Initial Study Checklist Template	Ventura County RMA Planning Division	PDF | Website
References		
Air Toxics Hot Spots Information and Assessment Act (AB 2588)	California Air Resources Board (CARB)	Website
California Ambient Air Quality Standards (CAAQS)	CARB	Website
California Environmental Quality Act	California Governor's Office of Land Use and Climate Innovation, formerly Office of Planning and Research	Website
National Ambient Air Quality Standard (NAAQS)	United States Environmental Protection Agency	Website
State Mobile Source Strategy	CARB	Website
Toxic Air Contaminant Identification and Control Act (AB 1807)	CARB	Website

Source	Managing Agency/Organization	Online Access
Ventura County Air Quality Assessment Guidelines (AQAG)	Ventura County Air Pollution Control District	PDF | Website
Ventura County Air Quality Management Plan (AQMP)	Ventura County Air Pollution Control District	PDF | Website
Ventura County General Plan Background Report, Chapter 8	Ventura County RMA Planning Division	PDF | Website
Ventura County General Plan, Hazards and Safety Element	Ventura County RMA Planning Division	PDF | Website