Scope and Content of Air Quality Sections in Environmental Documents

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Santa Barbara County
Air Pollution Control District

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SANTA BARBARA COUNTY AIR POLLUTION CONTROL DISTRICT

SCOPE AND CONTENT OF AIR QUALITY SECTIONS IN ENVIRONMENTAL DOCUMENTS

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1. INTRODUCTION

The Santa Barbara County Air Pollution Control District (APCD) performs a number of functions which include: preparing and updating the clean air plans, implementing state and federal air pollution control laws, adopting, administering, and enforcing air pollution control rules and regulations, overseeing a network of air quality monitoring stations, demonstrating innovative clean air technology and educating the public about their role in reducing air pollution. In addition, the APCD acts as lead agency, responsible agency or a concerned agency with jurisdiction by law over the air resources of the County under the California Environmental Quality Act (CEQA). In this capacity, the APCD reviews environmental documents for the air quality impacts of land use projects.

The APCD Board consists of the five County Supervisors plus one representative from each of the eight incorporated cities. On October 19, 1995 the APCD Board adopted APCD *Environmental Review Guidelines* pursuant to CEQA. A revision to this document incorporating recent changes to the State CEQA Guidelines was adopted on November 16, 2000. Criteria for evaluating the significance of adverse air quality impacts from land use projects were adopted in the APCD *Environmental Review Guidelines* and are described in Section 4 of this document. The document is available for downloading at http://www.sbcapcd.org/ceqa.htm.

The APCD thresholds of significance apply to all sources, including businesses not regulated by the APCD and motor vehicles. Examples of businesses that APCD regulates include gasoline stations, auto body shops, dry cleaners, oil and gas facilities, large wineries, and water treatment plants. The APCD regulates these and other businesses by issuing permits and adopting rules, as required by state and federal air pollution control laws. These thresholds of significance cannot be used to determine whether a project will need an APCD permit. For information on whether a project will require an APCD permit, please contact the Permitting Section Supervisor of the APCD or visit the APCD web site at www.sbcapcd.org. The APCD does not regulate land use projects.

Air quality impacts for land use projects should be evaluated using the thresholds of significance adopted or used by the jurisdiction in which the project is located. Santa Barbara County's interim thresholds of significance, which were amended recently, may be found on their website (www.sbcountyplanning.org/PDF/ManualsReports/Manuals/Environmental_Thrshlds.pdf **)**

This document provides guidance for assessing and mitigating air quality impacts of development projects. It is updated frequently as new information and methodologies become available**. For the most recent version of this document please check the APCD web site at www.sbcapcd.org periodically**. For assistance in applying the thresholds in this manual please contact the Community Programs staff at (805) 961-8800.

2. CONTENTS OF EIRS

In general, as required by the California Environmental Quality Act (CEQA), the air quality analysis in environmental impact reports (EIR) should include the following elements:

- **existing environmental setting** of the area affected by the project, in terms of climate and current air quality; see section 3.0 of this document;

- a discussion of all direct and indirect, long term and short term, **air quality impacts of the proposed project and the classification of the significance of long-term impacts using established criteria**; see section 4.0 of this document;

- significant **cumulative air quality impacts** of the project including contribution of greenhouse gases to global climate change; see section 4.4;

- **consistency** and conformity of the project with local and regional plans, including the most recent Clean Air Plan and other plans; see section 4.5;

- **mitigation measures** to avoid or reduce potentially significant air quality impacts, including effectiveness of mitigation measures and discussion of **residual impacts**; see section 5 of this document;

- evaluation of all feasible **alternatives** to the project which would reduce air quality impacts; including the air quality impacts of the "No Project" alternative and the environmentally superior alternative;

- evaluation of the **growth inducing effects** of the project on air quality;

- listing all required air quality mitigation measures in the **Mitigation Monitoring and/or Reporting Plan** (MMRP). This should include details on the implementation of each identified mitigation measure to ensure that they are carried out as specified.

- appendices containing all **calculations and assumptions** used in assessing air quality impacts.

2.1 CONTENTS OF NEGATIVE DECLARATIONS

The air quality analyses in Negative Declarations should include a brief description of the air quality setting, project-specific and cumulative impacts; consistency with the most recent clean air plan, any mitigation measures and inclusion of all air quality mitigation measures in the MMRP or project

conditions of approval. All calculations and assumptions used in assessing air quality impacts should be included.

3. ENVIRONMENTAL SETTING

It is necessary to know the environmental setting of a proposed project as a baseline against which to measure the project's impact. The environmental setting should be described both from a local and a regional perspective. CEQA Section 15125 (a) states, "*The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives*." The following aspects of the environmental setting may be included in the environmental document:

- the climatological, meteorological and topographical features that may influence the project's effects on local and regional air quality;

- the applicable federal, state and APCD rules and regulations, including emission standards and ambient air quality standards;

- current air pollution problems within the county, and the effects of pollutants such as ozone precursors (NO_x and ROC), PM_{10}, $PM_{2.5}$ and PM_{10} precursors such as NO_x and SO_x. Please check the APCD website for the most current information.

Santa Barbara County is designated as a federal ozone attainment area for the 8-hour ozone National Ambient Air Quality Standard. (The 1-hour federal ozone standard was revoked for Santa Barbara County). The County is also considered in attainment for the state 1-hour standard for ozone as of June, 2007. A new California 8-hour ozone standard was implemented in May, 2006. The County violates this new state 8-hour ozone standard and continues to violate the state standard for PM_{10}. There is not yet enough data to determine the attainment status for either the federal standard for particulate matter less than 2.5 microns in diameter (PM2.5) or the state PM2.5 standard, although the County is likely to be in attainment for the federal PM2.5 standard.

The major onshore sources of ozone precursor emissions in Santa Barbara County are motor vehicles, the petroleum industry and solvent usage (paints, consumer products and certain industrial processes). Sources of PM_{10} include mineral quarries, grading, demolition, agricultural tilling, road dust, and vehicle exhaust ($PM_{2.5}$). Additional information on ozone and other pollutants of concern is provided in the latest Clean Air Plan (CAP).

The environmental setting section should include a description of surrounding land uses and whether the project and the surrounding uses are compatible or have the potential to cause localized air quality and health risk impacts.

It may be appropriate to incorporate by reference relevant portions of previously certified environmental documents or the most recent air quality plan in describing the **local or regional** environmental setting. If this is done, a summary or description of the incorporated material and its relationship to the document should be included. The 2001 CAP, which was prepared in response to the requirements of the California Clean Air Act, as well as the Federal Clean Air Act, has been adopted as part of the State Implementation Plan. The 2007 CAP is currently the most recent Clean Air Plan for the county adopted by the APCD Board. It includes the most current air quality report and historical summary and is available on the APCD website, www.sbcapcd.org.

4. AIR QUALITY IMPACTS OF PROJECT

Thresholds of significance are intended to supplement provisions in the State Guidelines for determining significant effects including Sections 15064, 15065 and 15382 of the State CEQA Guidelines. Thresholds of significance provide general guidance for determining significant impacts, but are not ironclad definitions of significant impacts. Each project must be judged individually for its potential for significant impacts based on specific circumstances and evidence.

The APCD's air quality significance criteria are applied during the CEQA review of projects for which the APCD is lead agency and these, or more stringent criteria, are recommended for CEQA review of all other projects in the county for which the APCD is responsible agency or concerned agency.

The APCD does not regulate land use projects. Air quality impacts for land use projects should be evaluated using the thresholds of significance adopted or used by the jurisdiction in which the project is located. Santa Barbara County's interim thresholds of significance, which were amended in October 2006, may be found on their website (www.sbcountyplanning.org/PDF/ManualsReports/Manuals/Environmental_Thrshlds.pdf **)**

The APCD Board adopted the following thresholds of significance in October 1995:

A proposed project will not have a significant air quality effect on the environment, if:

Operation of the project will:

- emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or Air Quality Impact Analysis set in the APCD New Source Review Rule[1], for any

[1] *The APCD New Source Review Rule as it existed at the time the APCD Environmental Review Guidelines were adopted (in October, 1995).*

pollutant *(i.e., 240 pounds/day for ROC or NO_x; and 80 lbs/day for PM_{10}. There is no daily operational threshold for CO ; it is an attainment pollutant*[2]) ; and

- emit less than 25 pounds per day of NO_x or ROC from motor vehicle trips only; and
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and
- not exceed the APCD health risk public notification thresholds adopted by the APCD Board (*10 excess cancer cases in a million for cancer risk and a Hazard Index of more than one (1.0) for non-cancer risk* ; and
- be consistent with the latest adopted federal and state air quality plans for Santa Barbara County.

Cumulative impacts and consistency with the policies and measures in the Air Quality Supplement of the County's Comprehensive Plan, other general plans, and the current air quality plans, should be discussed for all projects (e.g., whether the project exceeds the growth assumptions in the air quality plan). Quantitative thresholds of significance are not currently in place for short-term or construction emissions, however, the APCD uses 25 tons per year for ROG or NOx as a guideline for determining the significance of construction impacts.

4.1 Impact Classification

Classification of all air quality impacts using the most recent version of the APCD's Environmental Review Guidelines should be included. In order to determine if a project exceeds these quantitative thresholds, the expected emissions of these pollutants from the project must be calculated.

CEQA requires that all EIRs contain a Summary Impact Table to assist decision makers. The APCD recommends that the tables be organized as follows:

a. Class I Impacts -Significant unavoidable adverse impacts for which the decision maker must adopt a Statement of Overriding Consideration.

b. Class II Impacts -Significant environmental impacts that can be feasibly mitigated or avoided for which the decision maker must adopt findings and recommended mitigation measures.

[2] *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. Therefore, CO "Hotspot" analyses are not required anymore.*

c. Class III Impacts - Adverse impacts found not to be significant for which the decision maker does not have to adopt findings under CEQA[3].

d. Class IV Impacts - Beneficial impacts.

4.2 Short-term and Construction Emissions

Although quantitative thresholds of significance are not currently in place for short-term emissions, CEQA requires that short-term impacts such as exhaust emissions from construction equipment and fugitive dust generation during grading, be discussed in the environmental document. In the interest of public disclosure, the APCD recommends that construction-related NO_x, ROC, PM_{10} and $PM_{2.5}$ emissions from diesel and gasoline powered equipment, paving and other activities, be quantified. The latest version of the URBEMIS 2007 computer program, which is available at http://www.urbemis.com/ may be used for estimating unmitigated and mitigated short-term impacts. Default values provided by the program may be used where detailed project information is not available. Appropriate mitigation measures (in addition to the URBEMIS 2007 measures) to reduce or avoid emissions to the maximum extent feasible must be applied for projects subject to the County's Local Coastal Plan. Section 5provides some example measures.

Under APCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which 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 would be violated.

Standard dust control measures (see Section 5.1) must be implemented for any discretionary project involving earth-moving activities. Some projects have the potential for construction-related dust to cause a nuisance. Since Santa Barbara County violates the state standard for PM_{10}, dust mitigation measures are required for all discretionary construction activities regardless of the significance of the fugitive dust impacts based on the policies in the 1979 Air Quality Attainment Plan.

4.3 Long-term/Operational Emissions

[3] Under the County's Local Coastal Plan, for projects requiring approval of CUPs or DPs, additional findings are required stating that all adverse impacts have been mitigated to the maximum extent feasible.

Long-term project emissions primarily stem from motor vehicles associated with the project and from stationary sources that may require permits from the APCD. Examples of stationary emission sources include gas stations, auto body shops, diesel generators, boilers and large water heaters, dry cleaners, oil and gas production and processing facilities, and water treatment facilities. Other stationary sources such as residential heating and cooling equipment, wood burning stoves and fireplaces, or other individual appliances do not require permits from the APCD and are known as "area sources." Emissions from “area sources” may be significant for some housing developments or for commercial projects. The URBEMIS 2007 computer program may be used for estimating unmitigated and mitigated "area source" impacts (see Section 4.3.1). Wine fermentation and storage emissions should be calculated separately (see Section 4.3.3). These emissions should be included in the operational phase emission evaluation. Note that an APCD permit or a written permit exemption is required for ALL wineries, breweries, distilleries and similar facilities.

The APCD should be contacted for assistance with estimating direct emissions from stationary sources associated with the land use development, such as any diesel-fueled internal combustion engines (e.g., emergency standby engines, prime power diesel generators and compressors) or if the engine is registered with the California Air Resources Board under their portable engine registration permit (PERP) program. Stationary source and area source emissions must be added to transportation source emissions prior to applying the project-specific thresholds of significance.

4.3.1 Estimating Traffic Emissions from Land Use Projects

To calculate long-term emissions from motor vehicles associated with land use projects, the computer program URBEMIS 2007 , which is available at http://www.urbemis.com/, must be used. The URBEMIS User's Guide is now available online at www.urbemis.com.

To determine whether the project being evaluated is likely to exceed the APCD significance threshold for motor vehicle-related emissions of 25 pounds per day of ROC or NO_x, the URBEMIS 2007 program may be run using only the unmitigated operation module. **For a description of the land uses please consult the URBEMIS 2007 user’s manual or the Institute of Transportation Engineers (ITE) manual (7th ed.).**

To correctly estimate project-specific vehicle emissions and other emission calculations using the URBEMIS 2007 program: a) the year must be changed to reflect the year the project will be built (the on-road fleet-mix in subsequent years is assumed to have lower tail-pipe emissions and the fleet mix varies with the build out year selected) and b) the average daily trip generation rates (ADT), which are calculated based on the actual size of the project for non-residential projects and based on average rates for residential projects, must be the same as those used in the traffic analysis estimates. For residential projects the size of the housing site

in acres must be provided. Summer daily emissions must be used to compare to the daily air quality thresholds because summer is the "ozone season".

When calculating emissions from vehicle trips, the Average Daily Trips for a peak day must be used. The trip generation rates estimated by the Institute of Transportation Engineers (ITE) manual include employee trips and delivery trucks, but not special event trips. A reasonable worst case scenario must include all trips that could reasonably occur on the peak day. Averaging the total daily proposed trips over 365 days per year or over a week, does not estimate the reasonable worst case daily emissions from traffic in order to compare to the daily threshold of significance of 25 lbs/day. A reasonable worst case scenario is required by CEQA.

The use of the URBEMIS model may not be appropriate for estimating emissions from the build out of a community plan. Generally, this requires a travel demand model input. However, URBEMIS is an easily available, user-friendly tool that may be used to illustrate the relative difference between build out scenarios or alternatives for community plans.

The main technical problem with using URBEMIS for land use areas larger than 40 acres is that it counts all the average daily trips associated with housing, employment sites, and commercial areas, whereas a travel demand model generates trips from residences and then distributes those trips to and from various destinations. Therefore, URBEMIS can result in a significantly larger number of trips than a travel demand model, even if the mixed-use, double-counting, and pass-by trips options are used.

When using URBEMIS to evaluate a large mixed-use type of project one must supplement any of the default data, such as number of trips, trip lengths, etc., with project specific data from a traffic study.

Although using URBEMIS defaults over-estimates daily emissions from this type of project, the results using project-specific traffic study data also show that emissions will be many times above the significance thresholds. Thus, the impact is characterized as significant regardless of which method was used.

The use of the URBEMIS model for an alternatives analysis is also acceptable because the alternatives analysis is comparing emission estimates amongst differing land use development scenarios, so any bias in the estimates should be consistent throughout each alternative's analysis.

Consistency with the most recent Clean Air Plan (growth comparisons with SBCAG's Regional Growth Forecast) must also been included to show whether the changes in land use will interfere with the progress towards the attainment of the State ambient air quality standards for ozone.

A Screening Table is provided as Attachment A to this Scope and Contents document. The screening table lists only the most common types of land uses and estimates the size of a

specific project type that is expected to be less that the threshold of significance for ROG and NOx emissions from vehicles. If a project type is not included in the screening table, or if a project is larger than those listed in the screening table, a project specific analysis using the URBEMIS program must be performed.

4.3.2 Drive through Facilities

Historically, the air quality concern associated with drive through facilities was the potential occurrence of CO hotspots where a large number of vehicles idle. Due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with drive-through project traffic alone are not expected to exceed the CO health-related air quality standards. Therefore, CO "Hotspot" analyses are not required anymore.

Santa Barbara County LUDC, Section 35.42.130.B and similar ordinances for some cities in Santa Barbara County prohibit approval of new drive-through facilities if the air quality impacts of the project are greater with the drive-through than without. The current methodology available to perform a technical analysis of drive-through emissions is based on an extremely small sample size of observations. The calculation of drive-through emissions is highly sensitive to the assumptions used and in most cases is speculative. In general, emissions of ozone precursors (ROG and NOx) will be slightly lower for a project with a drive-through facility. Conversely, emissions of the greenhouse gas pollutant CO2 will be significantly higher for a project with a drive-through facility. Unless a reliable estimate of the number of vehicles, queuing times, and non-drive-through service time are available, the APCD does not recommend project specific drive-through emission calculations

4.3.3 Wineries

In addition to the emissions from traffic associated with a proposed winery, there is a potential for significant emissions of ROC, primarily ethanol, from winery processes such as fermentation, bulk storage and aging of wine in oak barrels. All wineries (existing and proposed) must apply for a written permit exemption or an Authority to Construct permit from the APCD. Details on the requirements for wineries are available at http://www.sbcapcd.org/eng/winery/winery.htm.

Permits are required for a diesel-fueled engine (e.g., firewater pumps) if the engine is rated over 50 bhp. Permits are required for any individual (or grouping) of boilers or large water heaters with a rated heat over 2.0 million BTUs per hour (MMBtu/hr). A winery emission calculation spreadsheet in Excel is available from the APCD. These calculations address the daily and annual emissions from stationary equipment for the production and processing of wine; emission factors for fermentation and aging/storage emission factors. The spreadsheet is broken into three parts: winery emissions, boiler emissions and firewater pump emissions. Emergency standby generator engine (diesel or natural gas powered), if present, should be

added to the total emissions. The *Wine Data Input* sheet has all the inputs required for the winery emissions. It has two sections, one for annual emissions and the second for daily emissions. Since red wine production has higher emissions, when calculating potential emissions, the reasonable worst-case emissions scenario should address the maximum red wine production and aging capacities (check with the APCD to obtain the most current version of the spreadsheet).

The spreadsheet should be used first as a screening tool by assuming only red wine production and that all wine is aged in oak barrels (with no changes to the default settings). If the project does not pass this screening (i.e., the total emissions exceeds the significance threshold) then additional information should be provided by the applicant for site-specific APCD review. This includes:

- Plant/Facility process diagram showing the process equipment layout.
- Equipment design data for each device (size, capacity, ratings).
- Supporting documentation and/or calculations that support the data input values, including the total number of oak barrels.
- If applicable, explain what happens to the red wine not aged in oak.

During fermentation red wine emits 6.2 lbs ethanol per 1000 gallons; white wine emits 2.5 lbs ethanol per 1000 gals (source: California Air Resources Board, 2005). During aging in wood cooperage 2.5% of the ethanol evaporates. There are negligible emissions from aging in stainless steel tanks (source: California Air Resources Board, 1992). The greenhouse gas, CO_2, is emitted during fermentation and the emission factor is 882 lb CO_2/1000 gallons for red wine and 819 lb CO_2/1000 gallons for white wine.

4.3.4 Odor Issues

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. It is essential that odor issues be discussed early in the application process so that mitigations may be identified. An Odor Abatement Plan (OAP) may be submitted as part of the permit application for such projects. APCD inspectors are required to respond to public nuisance complaints under APCD Rule 303, and may review the OAP for adequacy in mitigating potential nuisance odor impacts from the project. OAPs should include the following elements:

a) Name and telephone number of contact person(s) at the facility responsible for logging in and responding to odor complaints.

b) Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the staff on how to respond.
c) Description of potential odor sources at the facility.
d) Description of potential methods for reducing odors, including minimizing idling of delivery and service trucks and buses, process changes, facility modifications and/or feasible add-on air pollution control equipment.
e) Contingency measures to curtail emissions in the event of a public nuisance complaint.

Wood-burning fireplaces are the cause of many public nuisance complaints that the APCD receives during the winter months. We recommend that only gas fireplaces be allowed in the new residences. Gas fireplace means a fireplace or any other listed gas appliance as defined in the Uniform Mechanical Code designed to burn natural gas in a manner that simulates the appearance of a wood burning fireplace and does not burn anything other than natural gas.

4.3.5 Toxic Air Emissions

Toxic air contaminants are air pollutants that may cause adverse health effects, particularly cancer or reproductive harm. Many companies have reduced their toxic emissions, either voluntarily or as a result of the implementation of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588) and amendments and emission control rules passed by the APCD. For more information see http://www.sbcapcd.org/biz/toxics.htm.

Some classifications of projects are more likely than others to emit toxic pollutants. Such projects involve commercial or industrial activities such as oil and gas processing, gasoline dispensing, dry cleaning, electronic and parts manufacturing, medical equipment sterilization, freeways, rail yards[4], etc. New sensitive land uses should not be sited within 500 feet of Highway 101 in Santa Barbara County. Although adverse health effects have been observed at distances further than 500 feet from a high-traffic roadway, California freeway studies show about a 70 percent drop off in particle pollution levels at 500 feet. The rail corridor, and other nearby sources of air pollution, including gas stations or dry cleaners, may increase the exposure to air pollution and associated cumulative risk and should be considered.

The impacts are often localized near the source of emissions and locating a sensitive use some distance away from the toxic source may be adequate to avoid the impact. If a project may emit toxic air contaminants, or if toxic contaminants may already be present at the project site, the impacts and potential risk should be discussed in the environmental document. If there are sensitive receptors near by, a screening health risk assessment using worst-case scenario

[4] *California Air Resources Board, June, 2005. Air Quality and Land Use Handbook: A Community Health Perspective*.

assumptions may be warranted. A health risk assessment is not required for short-term or construction projects at this time.

The significance threshold for long-term public health risk is set at **10 excess cancer cases in a million for cancer risk**. For non-cancer risk, the significance level is set at a **Hazard Index of more than one (1.0)**. The Hazard Index of more than one means that predicted levels of a toxic pollutant are greater than the exposure level, which is generally considered acceptable. These significance thresholds are also the APCD health risk public notification thresholds adopted by the APCD Board. If a formal health risk assessment shows that a significant impact result, mitigations to reduce the predicted levels of toxic air pollutants from the facility to a level of insignificance may be imposed by the lead agency.

4.3.6 Asbestos

If a residential building with more than four units or a commercial building is to be demolished or renovated, or the structure is considered a "regulated structure" (e.g., bridges, caissons, etc.), the project proponent must complete an APCD Asbestos Demolition and Renovation Compliance Checklist (available on the APCD website, www.sbcapcd.org) and the APCD must be notified even if the building does not contain any asbestos. However, if the project is only a renovation, no notification is required unless the renovation involves disturbing a threshold amount of regulated asbestos materials. The project proponent should consult the APCD website regarding asbestos requirements as definitions and requirements often change. For more information, see www.sbacpd.org/biz/asbestos.htm.

4.4 Cumulative Impacts

Cumulative air quality impacts are the effect of long-term emissions of the proposed project + any existing emissions at the same location + reasonably foreseeable similar projects on the projected regional air quality or localized air pollution problems in the County. As discussed in the APCD CEQA Guidelines, the cumulative contribution of project emissions to regional levels should be compared with existing programs and plans, including the most recent Clean Air Plan (CAP). Due to the county's nonattainment status for ozone and its regional nature, if a project's emissions from traffic sources of either of the ozone precursors, NO_x or ROC, exceed the long-term thresholds then the project's cumulative impacts will be considered significant. For projects that do not have significant ozone precursor emissions or localized pollutant impacts, if emissions have been taken into account in the most recent CAP growth projections, regional cumulative impacts may be considered to be insignificant. When a project's emissions exceed the thresholds and are clearly not accounted for in the most recent CAP growth projections, then the project is considered to have significant cumulative impacts which must be mitigated to a level of insignificance.

Global climate change is a growing concern that needs to be addressed in CEQA documents and we recommend the discussion be included under cumulative impacts. There are currently no published thresholds for measuring the significance of a project's cumulative contribution to global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases. Therefore, we strongly recommend the implementation of all feasible mitigation measures to reduce the emissions of greenhouse gases under long-term impacts. Please see http://www.sbcapcd.org/apcd/landuse.htm#CEQA_and_Climate_Change for more information.

Consistency

Consistency with land use and population forecasts in local and regional plans, including the Clean Air Plan is required under CEQA for all projects. The standard dust mitigation measures in Section 5.1 are based on policies adopted in the 1979 Air Quality Attainment Plan. To be consistent with these policies, all projects involving earthmoving activities must implement the standard dust control measures. Proposed projects subject to the most recent CAP consistency determinations include a wide range of activities such as commercial, industrial, residential, and transportation projects. By definition, consistency with the CAP for the projects subject to these guidelines 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. The CAP relies primarily on the land use and population projections provided by the Santa Barbara County Association of Governments and ARB on-road emissions forecast as a basis for vehicle emission forecasting.

Any **general plan amendment** that would provide for increased population growth above that forecasted in the most recently adopted CAP is inconsistent with the CAP and may have a significant impact on air quality.

For **areas regulated by growth management** ordinances, where the allowable growth does not exceed the projections contained in the CAP, proposed residential projects are considered consistent with the CAP if they are consistent with the limitations of the ordinance.

For **areas not regulated by residential growth management** ordinances, or where growth regulated by such ordinances allows growth in excess of the CAP projections, proposed residential projects are considered consistent with the CAP if the annual incremental increase in dwelling units is below the annual incremental projections contained in the CAP.

Commercial and industrial projects (square footage and gross acreage) must also be tracked pursuant to the Congestion Management Plan. Commercial or industrial projects will be judged consistent with the CAP if they are consistent with APCD rules and regulations. Large industrial

stationary source projects may be found inconsistent if their direct emissions are not considered in the CAP stationary source emission inventory.

Consistency with the Air Quality Supplement of the County's Land Use Element must also be analyzed for projects in the unincorporated areas of the County. Projects in incorporated areas must be consistent with the air quality policies in applicable plans. The air quality policies, in general, encourage mixed-use development and alternative transportation modes. Specifically, project alternatives for proposed housing projects should consider land development design policies aimed at reducing air pollutant emissions.

5. MITIGATION MEASURES AND RESIDUAL IMPACTS

The environmental document must describe all feasible mitigation measures that may be used to reduce or avoid potentially significant air quality impacts. Evaluation of **mitigation measures** to reduce or avoid potentially significant air quality impacts should include effectiveness of mitigation measures (quantified, if possible) and discussion of **residual impacts**.

Mitigation measures are required to reduce potentially significant air quality impacts caused by a proposed project. The State CEQA Guidelines state that a project shall not be approved with significant environmental impacts if there are feasible mitigation measures to reduce or eliminate the impact. As required by Public Resource Code, Section 21081.6, lead or responsible agencies must establish a **Mitigation Monitoring or Reporting Plan** to ensure that mitigation measures imposed as conditions of project approval are implemented as specified.

This section lists mitigation measures for typical land use projects. Such measures would normally be **recommended** to reduce adverse air quality impacts and are **required** whenever project air quality impacts exceed the significance thresholds.

The following list of mitigation measures **is not all-inclusive**. It should also be noted that more than one mitigation measure per pollutant might be required to reduce project impacts to below the significance threshold. The APCD recommends that the effectiveness of mitigation measures in reducing air quality impact levels be discussed and quantified whenever possible. The effectiveness depends on proper implementation and may vary by location. The Community Programs Section of the APCD should be contacted for information on the best available mitigation measures for different sources.

5.1 Construction Impact Mitigation: PM_{10} Mitigation Measures

The first measure is required for all projects involving earthmoving activities regardless of the project size or duration. The measures are based on policies adopted in the 1979 AQAP for Santa

Barbara County. Proper implementation of all of these measures, as necessary, is assumed to reduce fugitive dust emissions to a level of insignificance and is strongly recommended for all discretionary projects involving earthmoving.

During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.

- Gravel pads must be installed at all access points to prevent tracking of mud on to public roads.

- If importation, exportation and stockpiling of fill material are involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.

- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.

- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance for map recordation and land use clearance for finish grading for the structure.

- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans.

5.2 CONSTRUCTION IMPACT MITIGATION – EQUIPMENT EXHAUST

As of June 15, 2008, fleet owners are subject to sections 2449, 2449.1, 2449.2, and 2449.3 in Title 13, Article 4.8, Chapter 9, of the California Code of Regulations (CCR) to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use off-road diesel-fueled

vehicles. The following shall be adhered to during project grading and construction to reduce NO_x and $PM_{2.5}$ emissions from construction equipment:

- All portable construction equipment shall be registered with the state's portable equipment registration program OR permitted by the District by September 18, 2008.

- Diesel construction equipment meeting the California Air Resources Board's Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting Tier 2 or higher emission standards should be used to the maximum extent feasible.

- The engine size of construction equipment shall be the minimum practical size.

- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.

- Construction equipment shall be maintained in tune per the manufacturer's specifications.

- Construction equipment operating onsite shall be equipped with two to four degree engine timing retard or pre-combustion chamber engines.

- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.

- Diesel catalytic converters, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California shall be installed on equipment operating on-site.

- Diesel powered equipment should be replaced by electric equipment whenever feasible.

- Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes; auxiliary power units should be used whenever possible.

- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.

5.3 Operational Impact Mitigation - Ozone Precursor (NO_x and ROC) Mitigation Measures

The determination of an effective mitigation measure for operational impacts of ozone precursors depends on the nature of the emission source. If the emissions are from a direct source, the APCD should be contacted for direct (i.e., stationary) source mitigation measures.

The APCD has a special interest in residential and commercial land use projects that use sustainable development and pollution prevention principles. Such projects benefit air quality by reducing the use of the single occupant vehicle and by using energy more efficiently. Sustainable development includes principles that strengthen existing communities by directing development towards infill locations, promote mixed land uses, take advantage of compact and green building designs and preserve open space, agricultural land, natural beauty and environmentally sensitive areas. The principles also provide a variety of housing opportunities and choices; create walkable communities with a variety of transportation choices. Pollution prevention principles include "green" buildings whose location, design, construction and energy systems reduce the use of non-renewable energy resources.

Idling Restrictions: In order to reduce diesel emissions and the associated health risk from heavy duty diesel vehicles, California's more recent anti-idling regulations (with some exemptions) require that drivers of diesel-fueled commercial vehicles weighing more than 10,000 pounds:

- shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location,
- shall not use diesel-fueled auxiliary power units for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle equipped with a sleeper berth, at any location.

Lead agencies may place additional requirements on heavy duty diesel delivery and haul trucks less than 10,000 pounds, and create "no idle" zones at locations where there is a potential for significant health risk. It may not be possible to quantify the emission reductions associated with the creation of a no idling zone. However, this feasible mitigation measure may eliminate idling emissions and may avoid potentially significant health risk impacts.

5.3.1 Transportation Control Measures

On a project-specific level, land use and design measures that promote the use of alternative modes of transportation should be considered. These mitigation measures focus on reducing vehicle miles traveled, vehicle trips and peak hour travel. The implementation of these measures will control ozone forming oxides of nitrogen (NO_x) and reactive organic compounds (ROC), the primary air pollution concern on a regional scale for most land use projects. This list is not all-inclusive; development of additional measures is encouraged.

<u>Onsite Measures</u>

- Include multiple-use development to reduce the need for vehicle trips.
  Example:
  Combine residential, employment, and retail uses.

- Include design features to encourage alternate transportation modes.
  Examples:
  For pedestrians: *sidewalks; safe street and parking lot crossings; shade trees; off street breezeways, alleys, and over crossings; placement of parking lots and building entrances to favor pedestrians rather than cars; shower and locker facilities.*

  For transit riders: *all of the above plus safe, sheltered transit stops with convenient access to building entrances.*

  For bicyclists: *theft proof and well-lighted bicycle storage facilities with convenient access to building entrance; on-site bikeways between buildings or uses; shower and locker facilities.*

  For carpools and vanpools: *preferential parking.*

- Provide onsite services to reduce the need for offsite travel.
  Examples:
  For residential developments: *include childcare, telecommute center, neighborhood retail stores, postal machines, automatic teller machines.*

  For commercial/office developments: *include childcare, food services, postal machines, banking services.*

  For commercial/retail developments: *include delivery services, sales by phone.*

- Provide onsite services to encourage alternative transportation modes.
  Examples:
  rideshare matching, transit subsidies, vanpool subsidies, shuttle services, parking management, guaranteed ride home, education.

- Schedule operations to reduce trips during highly congested periods.
  Examples:
  adjust business hours, allow alternative work schedules, schedule deliveries for off-peak hours.

<u>Off-Site Measures</u>

- Transit service enhancements to serve the project.
  Examples:
  provide express bus service, bike racks on buses, shuttle buses.

- Bikeway improvements related to the project.
  Examples:
  extend bikeway network to provide better access.

- Pedestrian improvements serving the project.
  Examples:
  add sidewalks to improve access, pedestrian crossings and overhead or underground walkways.

- Telecommuting services for project-related employees.
  Examples:
  provide rental computers, telecommuting centers.

- Public education for residents or employees of the project.
  Examples:
  explain the benefits of alternative transportation through multi-media campaigns, such as pamphlets, public service announcements, newsletters or community bulletin boards.

The above measures may be tailored to the impacts of the proposed project. The following mitigation measure is provided as an example of recommended conditions of approval for a new regional shopping center:

Prior to approval of the Land Use Permits, the lead agency shall review and approve the Alternative Transportation Program (ATP). The ATP shall be a part of the project lease agreement terms and include:

a) A program to educate employees and shopper/users about the benefits of alternate transportation modes.
b) A Bulletin Board for employee carpool matching.
c) Shower and locker facilities for employee bicyclists.
d) Preferential parking for employee carpoolers.
e) Childcare facilities, if feasible.
f) Employee transit and carpool subsidies.
g) Telephone and computer shopping options.

5.3.2 Offsite Mitigation

The APCD can provide guidance on mitigating emissions associated with stationary sources of air pollution or a land use development project. The effectiveness of the measures will vary with project location, project type, and the availability of other programs and services. The APCD is available to assist the County and the cities in tailoring a feasible program to meet the emission reduction requirements for projects whose emissions exceed the threshold of significance. Lead agencies will be responsible for implementation and monitoring of air quality offsite mitigation programs.

5.3.3 Energy Conservation

Energy conservation measures are recommended for all projects to reduce the need for natural gas and electricity and thereby reduce greenhouse gases that contribute to global climate change. Although Santa Barbara County does not have power plants, a portion of our electricity comes from burning fossil fuels, which contributes to regional air pollution. The County of Santa Barbara's **Innovative Building Review Program** (IBRP) is a free service to developers, architects, planners and homeowners on how to design projects to use energy more efficiently. Information on this program can be found at http://www.sbcountyplanning.org/projects/ibrp/index.cfm

The following are examples of innovative measures, beyond Title 24 compliance, that should be incorporated into project building plans:

- Photovoltaic and wind generators
- Duct system within the building thermal envelope, or insulated to R-8
- Passive cooling strategies: Passive or fan-aided cooling planned for or designed into structure, a cupola or roof opening for hot air venting or underground cooling tubes
- Outdoor lighting designed for high efficiency, solar-powered or controlled by motion detectors
- Natural lighting in buildings
- Building siting and orientation to reduce energy use
- Summer shading and wind protection measures to increase energy efficiency
- Use of concrete or other non-polluting materials for parking lots instead of asphalt
- Use of landscaping to shade buildings and parking lots
- Installation of energy efficient appliances and lighting
- Installation of mechanical air conditioners and refrigeration units that use non-ozone depleting chemicals
- Installation of sidewalks and bike paths
- Installation of covered bus stops to encourage use of mass transportation
- Display kiosk with air quality and alternative transportation educational materials.

5.3.4 Green Materials and Practices

Proposed building plans should include green building materials and pollution prevention practices **recommended by the IBRP**, such as:

- At least 50% of exterior of local masonry; plaster or cementitious siding; recycled, salvaged or certified sustainably harvested wood; recycled roofing material or combination cement-fiber roofing; 30-year rated life on minimum 50% of roof
- At least 50% interior floor of tile, stone, finished concrete; cork or natural linoleum, carpet and pad (tacked) of recycled content or natural content, minimal finishes
- All insulation to be 100% recycled content, wet-blown, and/or cellulose with UL fire retardant
- The use of light colored water based paint and roofing materials
- At least 80% of interior and exterior paints and finishes to be water-based or low VOC and adhesives to be solvent-free
- Prepare a construction waste management plan to encourage material re-use and minimize waste.

ATTACHMENT A

The Lead Agency may consult the Screening Table below for an indication as to whether the threshold for vehicle-related emissions from project operations might be exceeded. The Screening Table lists only the most common types of land uses and estimates the size* of a specific project type that is expected to be less than the threshold of significance for ROG and NOx emissions from vehicles. The values provided in the Screening Table are based on 2008 build-out and rural trip length assumptions for modeling inputs using the URBEMIS model (described in Section 4.3.1). The values should be used only for project screening, and should not be considered absolute thresholds of project significance. Projects exceeding the levels indicated in the Screening Table, or project types not included in the Screening Table, should undergo a more detailed analysis, as described in Section 4.

Other air quality issues, such as high odors, toxics, greenhouse gases, cumulative impacts, and consistency with the Clean Air Plan must be considered when evaluating a project's potential for causing adverse air quality impacts. Depending on the nature of the project and local conditions, a project below the values in Table 6 could still cause an adverse air quality impact.

SCREENING TABLE: Projects with Potentially Significant Emissions

Land Use Category	Project Description Assumptions Used for URBEMIS "Rural" trip lengths, 2008 build-out year	Size of Projects Likely to Generate Approximately 22.5 lb/day* of ROG or NOx
Housing		
Single Family House	Detached Housing, 3 houses per acre, individual lots	96 houses

Land Use Category	Project Description Assumptions Used for URBEMIS "Rural" trip lengths, 2008 build-out year	Size of Projects Likely to Generate Approximately 22.5 lb/day* of ROG or NOx
Apartments	One or two levels,16 apartments per acre	133 apartments
Condominiums/Town-houses	16 condos per acre	133 condos
Mobile Home Park	6 manufactured homes per acre	184 mobile homes
Schools		
Elementary School	K-6 grade	88,000 square feet
High School	Grades 9-12	93,000 square feet
Day Care Center	Pre-school age, classrooms, offices, eating areas, playgrounds	16,500 square feet
Community		
Place of Worship	Church, synagogue	144,000 square feet
Public Park	Open space, picnicking, ball fields	820 acres
Retail		
Sit-down Restaurant	Full service, one hour or more turnover rate	14,500 square feet
High-turnover Restaurant	Full service, less than one hour turnover rate	10,500 square feet
Hotel	Full service, restaurant, meeting rooms	160 rooms
Motel	Restaurant, parking	232 rooms
Discount Club	Free standing store, parking	32,000 square feet
Electronic Superstore	Electronics, Audio, Video, Software, Computers	29,000 square feet
Home Improvement Superstore	Home Improvement Merchandise	45,000 square feet

Land Use Category	Project Description Assumptions Used for URBEMIS "Rural" trip lengths, 2008 build-out year	Size of Projects Likely to Generate Approximately 22.5 lb/day* of ROG or NOx
Strip Mall		31,000 square feet
Supermarket	Food items, also with banking, bakeries floral and photo centers	13,000 square feet
24-hour Convenience Market	Convenience foods, no gasoline	17,700 square feet
Office Park	General office buildings with banks, restaurants and other support services	98,000 square feet
Medical Office Building	Medical, dental office	36,000 square feet
General Office Building	Multiple tenants	106,000 square feet

**Approximately ten percent less than the SBCAPCD's significance threshold of 25 lbs/day for ROG or NOx from traffic using Rural trip lengths for the year 2008.*