

CEQA

AIR QUALITY HANDBOOK

*Guidelines for the Implementation of the
California Environmental Quality Act of 1970, as amended*



prepared by

**Imperial County Air Pollution Control District
150 South Ninth Street
El Centro, California**

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TRANSMITTAL RECORD

- Planning Commission (each member)
- Imperial County Planning/Building Department
- City of Brawley
- City of Calexico
- City of El Centro
- City of Holtville
- City of Imperial
- City of Westmorland
- City of Calipatria
- The Coalition of Labor, Agriculture & Business (COLAB)

1. Purpose

According to the California Environmental Quality Act (CEQA) guidelines, each public agency is responsible for its own compliance with CEQA. To accomplish this, each public agency is to adopt objectives, criteria and specific procedures consistent with CEQA guidelines. The guidelines are specific as to the procedures that should be implemented by public agencies.

The intent of this document is to develop CEQA protocol for the Imperial County Air Pollution Control District (ICAPCD)¹. This protocol has been created to assist lead agencies, planning consultants, air district staff, and project proponents in assessing the potential air quality impacts from residential and commercial developments. The protocol is designed to give the Imperial County specific guidelines that identify when an air quality analysis is necessary, the type of analysis that should be performed, the significance of the impacts predicted by the analysis, and the mitigation measures needed to reduce the overall air quality impacts. It is the intention of this document to make the preparation of the air quality analysis portion of any environmental document consistent with the rules and regulations governing this district and those found within the guidelines of the CEQA.

The provisions contained herein are not intended to replace the terms of CEQA or its Guidelines. In the event that any of the following procedures conflict with the provisions of CEQA or the Guidelines, the provisions of CEQA or its Guidelines shall control.

2. Introduction

Clean air is vital to the health and welfare of every citizen of this country. The residents of Imperial County have an inherent right to clean air. To answer the call of maintaining clean air, the legislature has given local air districts regional authority over the control of air pollution from all sources other than emissions from motor vehicles. Rightly so, the Air District has regulatory control over many stationary sources of air contaminants. These stationary sources are divided into point sources, such as factories, geothermal plants and rock quarries, and area sources, such as paved and unpaved roads, open areas, construction projects, which have emissions that fit a generalized category and are considerably too small to warrant permitting. Generally speaking, direct sources of air contaminants are required to obtain specific operational permits from the Air District while

¹Throughout this document the term Air District refers to the Imperial County Air Pollution Control District.

indirect sources are exempt. Indirect sources are facilities as well as land uses which do not emit a significant amount of pollution on their own but attract or generate motor vehicle trips which result in emissions of ozone precursors, carbon monoxide and fine particulate matter.

For Imperial County, the department of Planning/Building, developed its CEQA “Rules and Regulations.” Typically, the Planning/Building department acts as the lead agency for all residential and commercial development projects. The lead agency reviews all project applications subject to CEQA and makes the determination whether a project is categorically exempt or statutorily exempt from CEQA requirements. If the project is not exempt, the lead agency prepares an Initial Study to determine whether an Environmental Impact Report (EIR), a Mitigated Negative Declaration or a Negative Declaration must be prepared. According to CEQA statutes, sections 21153 and 15366.1, a lead agency is required to seek comments from each responsible agency and any public agency that has jurisdiction by law over resources that may be affected by a proposed project². The Initial Study is presented to the Environmental Evaluation Committee (EEC) for review. The EEC will determine, by vote, whether an EIR, Mitigated Negative Declaration, or Negative Declaration, is required for the project and will cause the appropriate document to be prepared.

This handbook is designed to give lead agencies, EEC members, air district staff, and petitioners specific guidelines that identify when an air quality analysis is necessary, the type of analysis that should be performed, the significance of the impacts predicted by the analysis, and the mitigation measures needed to reduce the overall air quality impacts. As stated earlier, it is the intention of this document to make the preparation of the air quality analysis portion of any environmental document consistent with the rules and regulations governing this district and those found within the guidelines of CEQA. The air district’s handbook is solely an air quality guidance document. To address the overall general CEQA process, the lead agencies, EEC members, air district staff, and petitioners should follow the Planning/ Building Department’s guidance manual entitle “Rules and Regulations to Implement California Environmental Quality Act (CEQA) as Amended.”

3 Role of the Air District within the CEQA Process

Typically, the Air District acts as a responsible agency or commenting agency under CEQA for residential and commercial projects. The Air District acts as a responsible agency when it has discretionary approval authority (as a member of the EEC) over a project, but does not have the primary responsibility for carrying out a project. The Air District acts as the responsible agency when development projects require general approval and an Air District Permit. As a responsible agency, the Air District may coordinate the environmental review process with the Air District’s permitting process. During this coordinated process the Air District should provide comments to

²Health and Safety code section 40000 grants local and regional authorities the legal jurisdiction over control of air pollution from all sources, other than emissions from motor vehicles. The Imperial County Air Pollution Control District has the primary responsibility for the control of air pollution from all sources other than emissions from motor vehicles.

the lead agency regarding potential impacts and recommend mitigation measures. Conversely, the Air District acts as a commenting agency when it is not designated as a lead or responsible agency. Under the auspice of this title the Air District may have concerns about the air quality impacts of a proposed project. As a commenting agency, the Air District reviews environmental documents prepared for development proposals and provides significant comments to the lead agency as they pertain to air quality impacts and mitigation measures.

In all cases, the primary concern of the Air District is guidance. The guidance the Air District provides is primarily to mitigate adverse impacts to air quality from development projects within the Imperial County. For most urban development proposals, this typically involves projects where the vehicle trip generation is enough to potentially cause high emission levels which may hinder the Air District's efforts in attaining and maintaining the Federal and State ambient air quality standards.

4 Thresholds of Significance

Generally speaking, a proponent of a development project has to submit an application to the designated lead agency for a preliminary review. According to CEQA guidelines, if the lead agency can clearly determine, during the preliminary review process, that an EIR is required the agency may, under its discretionary powers, skip further initial review and begin work directly on the EIR process³. However, under most circumstances, upon completion of the preliminary review the development of an Initial Study is conducted. The preparation of the Initial Study serves as an indicator for the need to develop an EIR, Mitigated Negative Declaration or a Negative Declaration⁴. If an EIR is required then the Initial Study serves to identify any significant effects upon the environment that are to be analyzed. This section describes the Air District's recommended thresholds of significance to be used to evaluate the air quality impact of a project when preparing an Initial Study. If the Initial Study indicates that any of the following thresholds may be exceeded, then an EIR should be prepared in order to more accurately evaluate the project impacts and to identify mitigation measures.

The procedures and thresholds of significance of this air quality guidance handbook do not apply to projects which are specifically exempt within the CEQA Guideline, Sections 15260-15285 (Statutory Exemptions) and 15300-15332 (Categorical Exemptions).

For determining the significance of project impacts the Air District has established four separate evaluation categories. CEQA requires full disclosure of the potential air pollutants and/or toxic air emissions from a project to properly assess these evaluations:

³Found in Article 5 section 15060 (d) of the CEQA guidelines.

⁴According to the CEQA guidelines another purpose for the Initial Study is to enable an applicant to qualify for a Negative Declaration by modifying a project through mitigation measures of adverse impacts before an EIR is prepared. CEQA guidelines section 15063(c)(2).

- a) Comparison of calculated project emissions to Air District emission thresholds;
- b) Consistency with the most recent Clean Air Plan for Imperial County⁵;
- c) Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable; and
- d) The evaluation of special conditions which apply to certain projects.

4.1 Thresholds of Significance for Project Operations

This section includes the recommended threshold criteria for determining whether an EIR or a Mitigated Negative Declaration should be prepared for a development project. From the Air District’s perspective, the Initial Study of a development project should only consider long-term emissions or project operation emissions when determining the level of significance. Short-term emissions or construction emissions need not be considered to determine the level of significance of a project; however, the Initial Study should propose mitigation measures for those activities. Guidelines for analysis and mitigation measures for construction activities are presented in Section 7.1.

Table 1 provides general guidelines for determining the significance of impacts and the recommended type of environmental analysis based on the total emissions that are expected from a project operation .

Table 1, Thresholds of Significance for Project Operations

Pollutant	Tier I	Tier II
NOx and ROG	Less than 55 lbs/day	55 lbs/day and greater
PM10 and SOx	Less than 150 lbs/day	150 lbs and greater
CO	Less than 550 lbs/day	550 lbs/day and greater
Level of Significance	Potentially Significant	Significant Impact
Environmental Document	Mitigated Negative Declaration	EIR

Tier I Less than 55 lbs/day of NOx or ROG; less than 150 lbs/day of PM10 or SOx; or less than 550 lbs/day of CO

Any residential or commercial development project with a potential to emit less than 55 lbs/day of NOx or ROG; less than 150 lbs/day of PM10 or SO₂; or less than 550 lbs/day of CO could

⁵Clean Air Plan or Clean Air Plans indicates the most recent PM10 and Ozone attainment Plans for Imperial County.

potentially have an adverse impact on the local air quality. From the Air District's perspective, residential and commercial developments with a potential to emit below this level will *not* be required to develop an EIR. However, the Initial Study should require implementation of all the standard mitigation measures listed in Section 7.2 in order to reduce the air quality impact to an insignificant level. It is important to note that the strategies identified in Section 7.2 do not represent a comprehensive list of all mitigation measures. The project proponent, the lead agency or the Air District may propose alternative mitigation measures that are capable of providing the same level of mitigation. The Air District requires that alternative mitigation measures be fully documented with a copy of the documentation attached to the Initial Study.

Tier II 55 lbs/day or greater of NO_x or ROG; 150 lbs/day or greater of PM₁₀ or SO_x; or 550 lbs/day or greater of CO

Any residential or commercial development project with a potential to emit 55 lbs/day or greater of NO_x or ROG; 150 lbs/day or greater of PM₁₀ or SO_x; or 550 lbs/day or greater of CO will have a significant impact on the local air quality. In this instance the Air District requires the preparation of an EIR. *For projects exceeding any of these thresholds, the project proponent should select and implement all feasible discretionary mitigation measures in addition to the standard mitigation measures.* Sections 7.2 and 7.3 both provide a set of standard and discretionary mitigation measures that a project proponent could implement in order to reduce the air quality impacts to an insignificant level. For large development projects in which emissions cannot adequately be mitigated solely with on-site mitigation measures, the project developer should propose to implement off-site mitigation measures in order to reduce potential air quality impacts to a level of insignificance. Section 7.4 provides a set of off-site mitigation measures that could be implemented by the project proponent. It is important to note that the strategies identified in Sections 7.2 through 7.4 do not represent a comprehensive list of all mitigation measures. The applicant may propose to implement alternative mitigation measures that are capable of providing the same level of mitigation⁶. The Air District requires that alternative mitigation measures be fully documented and attached to the EIR.

4.2 Thresholds of Significance for Construction Activities

Construction-related emissions are generally short-term in duration, but may still cause temporary adverse air quality impacts. With respect to construction activities particulate matter (PM₁₀) is the pollutant of greatest concern which includes but is not limited to: excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust emissions. Construction-related emissions can cause substantial increases in localized concentrations of PM₁₀. Construction emissions of PM₁₀ can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions as well as other factors. Despite this variability in emissions, experience has shown that there are a number

⁶ Elsewhere in the document applicant, project proponent, petitioner all refer to an individual who has a vested interest in a favorable outcome for a development project and who is physically submitting the appropriate paper work for approval of the project.

of feasible control measures that can be reasonably implemented to significantly reduce PM10 emissions from construction activities.

The Air District's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than producing a detailed evaluation of the emissions. From the Air District's perspective, evaluation of construction emissions is not necessary (however this does not preclude a lead agency from electing to do so), unless the project is required to prepare an EIR. The EIR should quantify emissions from construction activities, such as fugitive PM10 and exhaust emissions from construction equipment. Mitigation measures should be proposed for these activities.

Regardless of size, the standard mitigation measures for construction equipment and fugitive PM10 control for construction activities should be implemented at all construction sites. In addition, all the discretionary mitigation measures for fugitive PM10 control should be implemented at construction sites greater than, or equal to, four (4) acres. Section 7.1 provides a set of standard and discretionary mitigation measures for construction equipment and fugitive PM10 control for construction activities that the project proponent could implement in order to reduce the air quality impacts to an insignificant level. The measures identified in Section 7.1 do not represent a comprehensive list of all mitigation measures. The project proponent or the lead agency may propose alternative mitigation measures that are capable of providing the same level of mitigation. The Air District requires documentation of all alternative mitigation measures and a copy of the documentation should be attached to the Initial Study.

Compliance with the requirements of this CEQA guidance does not preclude the project from compliance with the Imperial County Air Pollution Control District Rules and Regulations. Any project shall be required to comply with all the requirements of the district's rules and regulations, specifically the requirements of Regulation VIII for the construction phase.

4.3 Screening Criteria for Project Impacts

Project screening is intended to allow for accurate and rapid evaluation of a proposed project's potential to exceed the Air District's CEQA emission thresholds of significance. The lead agency may consult Table 2 for an indication as to whether the thresholds for EIR applicability requirements for a particular project might be exceeded. The criteria used to evaluate air emissions associated with residential and commercial projects is based primarily on the combustion emissions generated by motor vehicles and area source emissions (paved and unpaved roads, construction projects, open areas, etc) . The URBEMIS model was used to evaluate the emissions associated to these projects⁷. The list is not comprehensive and should be used for general guidance only. The

⁷URBEMIS is a planning tool for estimating vehicle travel, fuel use and resulting emissions related to land use projects. The model is used to calculate emissions of ROG, CO, NOX and PM10 from vehicle use associated with specific construction developments.

petitioner is encouraged to develop a more refined analysis of air quality impacts specific to a particular project, especially for those projects exceeding the screening thresholds. The latest URBIMIS model is recommended for use in the evaluation of air quality impacts.

For those development projects not included in Table 2, it is highly recommended that the lead agency and the Air District consult together on EIR applicability requirements for any given project or that a request is made to the petitioner for an estimate of the air emissions that will be generated by the project.

Table 2, Screening Criteria for Project Air Quality Impacts

Land Use	Units of Measure	Trip Generation Rate ⁽¹⁾	Project Size which Would Generate Air Emissions Greater than the Threshold Limit ⁽²⁾
Single Family	Dwelling Unit	10.37	200 Units
Apartments	Dwelling Unit	5.93	340 Units
Condominiums	Dwelling Unit	5.40	350 Units
Mobile Home Park	Dwelling Unit	5.47	320 Units
Supermarket	1000 sq. ft	111.51	29.5 sq.ft.
Restaurant, Quality	1000 sq. ft	97.27	31 sq.ft.
Restaurant, Fast Food	1000 sq. ft	685.61	4.4 sq.ft.
Motel	No. Rooms	8.70	360 Rooms

(1) Trip generation rates in this table are from the Institute of Transportation Engineers (ITE) Trip Generation Rate Tables for Rural Areas.

(2) Emissions are defined as NOX, ROG, CO or PM10.

4.4 Consistency with the Most Recent Clean Air Plan for Imperial County

Within the CEQA guidelines, Section 15125 (b) requires that an EIR discuss consistency between

the proposed project and the applicable regional plans. A consistency analysis with the Clean Air Plans is required for large residential developments and large commercial developments which are required to develop an EIR. The EIR should demonstrate compliance of the project with the most recent Ozone and PM10 Attainment Demonstration Plans. The EIR should also demonstrate compliance of the project with the Imperial County Rules and Regulations, as well as the State and Federal Regulations.

4.5 Comparison of Predicted Ambient Pollutant Concentrations to State and Federal Air Quality Standards.

To protect the public health and welfare, the State and Federal government established Ambient Air Quality Standards for certain pollutants, known as criteria pollutants. Large residential and commercial projects are sometimes required to develop air quality dispersion modeling if it is determined that the project emissions have the potential to cause an exceedance of the Ambient Air Quality Standards. A project is considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any Ambient Air Quality Standard. The petitioner should identify in the EIR any on-site and off-site control measures which reduce the concentration of air emissions below the Ambient Air Quality Standards.

4.6 Special Conditions

Project impacts may also be considered significant if one or more of the following special conditions apply:

- a. Development projects located in close proximity to sensitive receptors or with a potential to emit toxic or hazardous air pollutants, even at a very low level of emissions, may be considered significant because of the increased cancer risk for the affected population. Such projects may be required to prepare a health risk assessment to determine the potential level of risk associated with their operations. The Air District should be consulted on any project with the potential to emit toxic or hazardous air pollutants. In addition, pursuant to the requirements of California Health and Safety Code 42301.6 (AB 3205) and Public Resources Code Section 21151.8, subdivision (a)(2), any new school, or proposed industrial or commercial project site located within 1000 feet of a school must be referred to the Air District for review.
- b. If a determination is made that a development project has the potential to cause a nuisance problem which impacts a considerable number of people the project may be considered as having a significant effect. There are projects that may emit pollutants in concentrations that would not otherwise be significant except as a nuisance, such as hydrogen sulfide.

If a project is proposed within the screening level distance in Table 3, the Air District should be contacted for information regarding potential odor problems. For projects that involve new receptors located near an existing odor source(s), a public information reviewing request

should be submitted to the Air District for a review of any existing odor complaints and for the nearest odor emitting facility(ies).

Table 3, Project Screening Distances for Potential Odor Sources

Type of Operation	Project Screening Distance
Wastewater Treatment Plant	1 mile
Sanitary Landfill	1 mile
Composting Station	1 mile
Feedlot	1 mile
Asphalt Plant	1 mile
Painting/Coating Operations (auto body shops)	1 mile
Rendering Plant	1 mile

5 Methods for Calculating Project Emissions

Air pollutant emissions from an urban development can derive from a variety of sources, including but not limited to motor vehicles, natural gas, electric energy use, combustion-powered utility equipment, paints and solvents, equipment or operations used by various commercial and industrial facilities, construction and demolition equipment and operations, as well as various other sources. The amount and type of emissions produced, and their potential to cause significant impacts, depends on the type and level of development proposed. The following sections describe the recommended methods generally used to calculate emissions from residential and commercial projects.

5.1 Motor Vehicle Emissions

Motor vehicles are the primary source of long-term emissions caused by residential and commercial land uses. These land uses often do not directly emit significant amounts of air pollutants, but cause or attract motor vehicle trips that do produce emissions. Such land uses are referred to as indirect sources.

Motor vehicle emissions associated with indirect sources should be calculated for projects which exceed the screening criteria listed in Table 2, Screening Criteria for Project Air Quality Impacts. Calculations should be based on the most recent vehicle mission factors (EMFAC series) provided by the California Air Resources Board (ARRB), and trip generation factors published by the Institute of Transportation Engineers (ITE). These factors have been incorporated into a simple computer model called URBEMIS, originally developed by the ARB. URBEMIS incorporates the EMFAC

emission factors and ITE trip rates.

URBEMIS is a planning tool for estimating vehicle travel, fuel use and resulting emissions related to land use projects. The model calculates emissions of ROG, CO, NOX and PM10 from vehicle use associated with new or modified development such as shopping centers, housing, commercial services and industrial land uses. URBEMIS allows users to compare motor vehicle emissions as a function of the number of vehicle trips associated with a given land use and the vehicle miles traveled for each particular type of trip taken. The calculated emissions can then be used as a basis for project screening.

User-specific inputs to the model include project type, year, season, trip speed and other parameters. The default values should be used when no other project specific information is available. If different values are used, justification and documentation for the inputs should be provided on the appropriate document. The Air District is currently working on incorporating the default values for Imperial County.

The Air District recommends using the most recent version of URBEMIS adopted by the Air Resources Board and the corresponding version of EMFAC. A link to the most recent version of URBEMIS can be accessed from the Air Resource Board website at www.arb.ca.gov. As an alternative, the petitioner may choose to manually evaluate the air emissions associated with a particular project.

A thorough emissions analysis should be performed on all relevant emission sources, using emission factors from EPA document AP-42 “Compliance of Air Pollutant Emission Factors”, the latest version of ENFAC, or other approved source(s). The emission analysis should include calculations for estimated emissions of all criteria pollutants and toxic substances released from the project. Documentation of emission factors and all assumptions should be provided.

6. Preparing the Air Quality Analysis Section for Environmental Impact Reports

For large projects requiring the preparation of an EIR, a comprehensive air quality analysis is required as part of the EIR document. Such an analysis should address both the construction phase and the operational phase impacts of the project and include, as a minimum, the following information:

- a. A description of existing air quality and emissions in the impact area, including the attainment status of the Air District relative to State and Federal air quality standards and any existing regulatory restrictions to development. Included should be data from the air quality monitoring station(s) closest to the project site. The most recent Clean Air Plans should be consulted for applicable information.
- b. A thorough emission analysis should be performed on all relevant emission sources, using emission factors from EPA document AP-42 “Compliance of Air Pollutant Emission

Factors”, the latest version of ENFAC, or other approved source(s). The emission analysis should include calculations for estimated emissions of all criteria pollutants and toxic substances released from the anticipated land mix on a daily and yearly basis. Documentation of emission factors and all assumptions (i.e. anticipated land uses, average daily trip rate from generation studies, etc) should be provided as an appendix to the EIR.

- c. The EIR should include a range of alternatives to the proposed project that could effectively minimize air quality impacts, if feasible. A thorough emissions analysis should be conducted for each of the proposed alternatives identified. The EIR author should contact the Air District if additional information and guidance is required. All calculations and assumptions used should be fully documented in an appendix to the EIR.
- d. A diesel exhaust screening level health risk assessment should be performed in consultation with the Air District engineering staff for projects that will result in significant use of heavy-duty diesel equipment in areas with potential for human exposure, especially when exposures to sensitive receptors are likely. Factors that will be considered by the Air District staff when determining if a screening risk analysis is necessary should include the expected emissions from diesel equipment, location of the project and distance to sensitive receptors.
- e. For those projects with a potential to generate heavy volumes of traffic and which can lead to high levels of CO, hot spot modeling should be used to determine compliance with the state CO standard at the intersections and/or roadway links that will be most impacted by the proposed project. The “hot spots” should be determined according to the traffic impact analysis. One of the most common models is CALINE4, developed by and available from the California Department of Transportation; however, any other APCD approved hot spot model can be used. If the results from the air modeling indicates a significant impact, mitigation measures should be identified and incorporated into the EIR. The effectiveness of any proposed mitigation measure(s) should be quantified by estimating the effects of the measure(s) on the volume of traffic and/or speeds, and CO concentrations.
- f. A cumulative impact analysis should be performed to evaluate the combined air quality impacts of any given project and the impacts from existing and proposed future developments in the area. This should encompass all planned construction activities within 1 mile of the project.
- g. The EIR should evaluate the project for consistency with the Clean Air Plan and the District’s Rules and Regulations.
- h. Temporary construction impacts, such as fugitive dust and combustion emissions from construction and grading activities, should be quantified and mitigation measures proposed.
- i. Mitigation measures should be recommended, as appropriate, following the guidelines of this handbook.

7. Mitigation Measures

An EIR should identify each significant air quality impact and propose feasible mitigation measures that would reasonably be expected to reduce impacts to below significant levels. In addition, a Mitigated Negative Declaration should identify measures included as part of the project to reduce impacts on air quality to less than significant.

This section contains a menu of mitigation measures that project proponents and local governments can use to select those measures that are feasible to mitigate the project's impact. According to CEQA Guidelines, Section 15364, feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Lead agencies are responsible for determining the feasibility of mitigation measures. In instances when a project has a significant impact, CEQA requires that feasible mitigation measures be applied to the project in order to reduce cumulative impacts and to reduce individually significant impacts. The district considers a project to be mitigated to a level of insignificance if its impact is mitigated below the threshold levels in Section 4. A project which incorporates all feasible mitigation measures and/or CEQA options for mitigation (refer to CEQA Guidelines, Section 15370 (a)(e)) is considered to have substantially mitigated air quality impacts pursuant to CEQA Guidelines, Section 15093 (b). However, if the project's emissions are still over the significance level and the agency decides to approve the project, the lead agency must prepare a Statement of Overriding Considerations pursuant to CEQA.

This section recommends feasible measures that can reasonably be expected to reduce air quality impacts from construction, indirect sources, localized carbon monoxide impacts, and cumulative impacts. The mitigation measures in this section are intended to reduce emissions of ROG, NO_x, PM₁₀, and CO.

The Standard Mitigation Measures for construction equipment and fugitive PM₁₀ control for construction activities should be implemented at all construction sites, as appropriate and feasible, regardless of the size. In addition, discretionary mitigation measures for fugitive PM₁₀ control should be implemented, as appropriate and feasible, at construction sites greater than, or equal to, four (4) acres.

7.1 Construction Equipment and Fugitive PM₁₀ Mitigation Measures

Listed below are a number of fugitive dust mitigation measures which have been shown to significantly reduce emissions. It should be noted that the following examples are not considered exclusive. The Air District is aware that there are other mitigation measures with similar or better emission reduction potentials. Use of other mitigation measures may also be considered if the appropriate documentation is provided.

Standard Mitigation Measures for Construction Equipment

- a. Maintain all construction equipment in proper tune according to manufacturer's specifications.
- b. Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road).
- c. Maximize to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- d. Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District approved emission reduction retrofit devices.

Standard Mitigation Measures for Fugitive PM10 Control

- a. The entire site shall be pre-watered for 48 hours prior to clearing and grubbing..
- b. Reduce the amount of the disturbed area where possible.
- c. Water at least twice daily or otherwise stabilize all active construction areas.
- d. All dirt stock-pile areas should be sprayed daily as needed.
- e. Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- f. Haul trucks shall covered loads or maintain at least 6" of freeboard when traveling on public roads.
- g. Pre-moisten, prior to transport, import and export materials that have a silt content of 5% or greater. Water all materials with a silt content of 5% or greater with a spray bar or cover trucks hauling dirt, sand, or loose materials. Empty trucks and trucks carrying asphalt material are excluded from this requirement.
- h. Sweep streets at the end of each day if visible soil material is carried onto streets, or wash off truck and equipment leaving the site.

Discretionary Mitigation Measures for Fugitive PM10 Control

- a. Use of water trucks or sprinkler system in sufficient quantities to prevent airborne dust from leaving the site. When wind speeds exceed 15 mph the operators shall increase watering frequency.
- b. Apply chemical soil stabilizers or apply water to form and maintain a crust on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- c. Apply non-toxic binders (e.g. latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseeded areas.
- d. Plant vegetative ground cover in disturbed areas as soon as possible and where feasible.
- e. Cover or apply water or chemical suppressants to form and maintain a crust on inactive storage piles.

- f. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- g. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- h. Install wheel washers, rumble gates, provide a gravel pad or pave the area where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.

7.2 Standard Mitigation Measures for Project Operations

The recommended standard air quality mitigation measures have been separated according to land use and mitigation type.

According to Table 1, Tier I, projects generating less than 55 lbs/day of NO_x or ROG; less than 150 lbs/day of PM₁₀ or SO_x; or less than 550 lbs/day of CO than 55 lbs/day, the Initial Study should require implementation of all the Standard Mitigation Measures in order to reduce the air quality impact to an insignificant level.

According to Table 1, Tier II, projects generating 55 lbs/day or greater of NO_x or ROG; 150 lbs/day or greater of PM₁₀ or SO_x; or 550 lbs/day or greater of CO, the EIR should select and implement all feasible and practicable measures from the discretionary list, in addition to the Standard Mitigation Measures.

Residential Projects

Standard mitigation recommendations for residential projects include the following site design and energy efficiency standards:

Standard Site Design Measures

- a. Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel;
- b. Allocate easements or land dedications for bikeways and pedestrian walkways; and
- c. Provide continuous sidewalks separated from the roadway by landscaping and on-street parking. Adequate lighting for sidewalks must be provided, along with crosswalks at intersections.

Standard Energy Efficiency Measures

- a. Increase the building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).

Commercial Projects

Standard mitigation recommendations for commercial and industrial projects include the following site design and energy efficiency standards:

Standard Site Design Measures

- a. Provide on-site bicycle parking;
- b. Provide on-site eating, refrigeration and food vending facilities to reduce lunchtime trips;
- c. Provide shower and locker facilities to encourage employees to bike and/or walk to work.
- d. Provide for paving a minimum of 100 feet from the property line for commercial driveways that access County paved roads as per County Standard Commercial Driveway Detail 410B (formerly SW-131A).

Standard Energy Efficiency Measures

- a. Increase building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increase attic, wall or floor insulation, etc).

7.3 Discretionary Mitigation Measures

The discretionary mitigation measures listed in this section have been separated according to land use and mitigation type. It is important to note that the strategies identified here do not represent a comprehensive list of all mitigation measures possible. Project proponents are encouraged to propose other alternatives that are capable of providing the same level of mitigation.

Residential Projects

Discretionary Site Design Measures

- a. If the project is located on an established transit route, improve public transit accessibility by providing transit turnouts with direct pedestrian access to project.
- b. Increase street tree planting.
- c. Outdoor electrical outlets to encourage the use of electric appliances and tools.
- d. Secure on-site bicycle parking for multi-family residential developments.
- e. Increase the number of bicycle routes/lanes.
- f. Provide pedestrian signalization and signage to improve pedestrian safety.

Discretionary Energy Efficiency Measures

- a. Use roof material with a solar reflectance value meeting the EPA/DEO Energy Star® rating to reduce summer cooling needs.
- b. Use high efficiency gas or solar water heaters.
- c. Use built-in energy efficient appliances.

- d. Use double-paned windows.
- e. Use low energy street lighting (i.e. sodium).
- f. Use energy efficient interior lighting.
- g. Use low energy traffic signals (i.e. light emitting diode).
- h. Install door sweeps and weather stripping if more efficient doors and windows are not available.

Commercial Projects

Discretionary Site Design Measures

- a. Increase street tree planting
- b. Shade tree planting in parking lots to reduce evaporative emissions from parked vehicles.
- c. Increase number of bicycle routes/lanes.
- d. If the project is located on an established transit route, improve public transit accessibility by providing transit turnouts with direct pedestrian access to protect or improve transit stop amenities.
- e. Implement on-site circulation design elements in parking lots to reduce vehicle queuing and improve the pedestrian environment.
- f. Provide pedestrian signalization and signage to improve pedestrian safety.

Discretionary Energy Efficiency Measures

- a. Use roof material with a solar reflectance value meeting the EPA/DOE Energy Star® rating to reduce summer cooling needs.
- b. Use built-in energy efficient appliances, where applicable.
- c. Use double-paned windows.
- d. Use low energy parking lot and street lights (i.e. sodium).
- e. Use energy efficient interior lighting.
- f. Use low energy traffic signals (i.e. light emitting diode).
- g. Install door sweeps and weather stripping if more efficient doors and windows are not available.
- h. Install high efficiency gas/electric space heating.

7.4 Off-site Mitigation Measures

Off-site mitigation measures are designed to offset emissions from large projects that cannot be fully mitigated with on-site measures. Off-site emissions reductions can result from either stationary or mobile sources, but should relate to the on-site impacts from the project in order to provide proper “nexus” for the air quality mitigation. For example, NOX emissions from increased vehicle trips from a large residential development could be reduced by funding the expansion of existing transit services. The off-site strategies identified below provide a range of options available to mitigate significant emission impacts from large projects.

- a. Retrofit existing homes in the project area with energy-efficient devices.
- b. Retrofit existing businesses in the project area with energy-efficient devices.
- c. Fund a program to buy and scrap older, higher emission passenger and heavy-duty vehicles.
- d. Replace/repower transit buses.
- e. Replace/repower heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles).
- f. Fund an electric lawn and garden equipment exchange program.
- g. Retrofit or repower heavy-duty construction equipment, or on-road vehicles.
- h. Repower or contribute to funding clean diesel locomotive main or auxiliary engines.
- i. Install bicycle racks on transit buses.
- j. Purchase particulate filters or oxidation catalysts for local school buses, transit buses or construction fleets.
- k. Install or contribute to funding alternative fueling infrastructure (i.e. fueling stations for CNG, LPG, conductive and inductive electric vehicle charging, etc.).
- l. Fund expansion of existing transit services.
- m. Fund public transit bus shelters.
- n. Subsidize vanpool programs.
- o. Subsidize transportation alternative incentive programs.
- p. Contribute to funding of new bike lanes.
- q. Install bicycle storage facilities.
- r. Provide assistance in the implementation of projects that are identified in a city or county Bicycle Master Plan.