

## ***Section 3.4***

### ***Air Quality***

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This environmental issue focuses on the impacts of a project on air quality. Issues over project consistency with applicable air quality plans, policies and regulations, increases of any pollutant for which the area has been designated as a “non-attainment” area. Additional concerns are over the exposure of sensitive receptors, such as people, to high levels of air pollution or odors.

#### ***3.4.1 Environmental Setting***

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***Climate and Topography*** Stanislaus County is located in the San Joaquin Valley Air Basin (SJVAB). The SJVAB, which is approximately 250 miles long and averages 35 miles in width, is the second largest air basin in the state. The SJVAB is defined by the Sierra Nevada mountains on the east (8,000–14,000 feet above sea level), the Coast Range on the west (averaging 3,000 feet above sea level), and the Tehachapi mountains on the south (6,000–8,000 feet above sea level). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits, where the Delta empties into San Francisco Bay. The San Joaquin Valley could therefore be considered a “bowl” open only to the north.

The SJVAB has an “inland Mediterranean” climate averaging more than 260 sunny days per year. The valley floor experiences warm, dry summers and cool, wet winters. Summer high temperatures often exceed 100°F, averaging in the low 90s in the northern valley and high 90s in the south. In the entire San Joaquin Valley, high daily temperature readings in summer average 95°F.

During the last 30 years, the San Joaquin Valley averaged 106 days per year with 90°F or hotter, and 40 days per year with 100°F or hotter. The daily summer temperature variation can be as high as 30°F.

In winter, as the cyclonic storm track moves southward, the storm systems moving in from the Pacific Ocean bring a maritime influence to the San Joaquin Valley. The high mountains to the east prevent the cold, continental air masses of the interior from influencing the valley. Winters are mild and humid. Temperatures below freezing are unusual. Average high temperatures in the winter are in the 50s, but highs in the 30s and 40s can occur on days with persistent fog and low cloudiness. The average daily low temperature is 45°F.

Although marine air generally flows into the basin from the Delta, the region’s topographic features restrict air movement through and out of the basin. The Coast Range hinders wind access into the San Joaquin Valley from the west, the Tehachapi prevent southerly passage of airflow, and the high Sierra Nevada is a significant barrier to the east. These topographic features result in weak airflow that becomes blocked vertically by high barometric pressure over the San Joaquin Valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500–3,000 feet above sea level).

## **Existing Air Quality Conditions**

### ***Air Quality Pollutants and Ambient Air Quality Standards***

The federal and state governments have established ambient air quality standards for six criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter 10 microns or less in diameter (PM<sub>10</sub>), and lead. Ozone is generally considered a regional pollutant, because it and its precursors affect air quality on a regional scale. Pollutants such as CO, NO<sub>2</sub>, SO<sub>2</sub>, and lead are considered local pollutants that tend to accumulate in the air surrounding the pollutant source. PM<sub>10</sub> and PM<sub>2.5</sub> are considered localized pollutant as well as a regional pollutant. In Stanislaus County, especially east of I-5, PM<sub>10</sub> and ozone are of particular concern.

Air basins are classified as either attainment or non-attainment with respect to state and federal ambient air quality standards. These classifications are determined by comparing actual monitored air pollutant concentrations to state and federal standards. The pollutants of greatest concern in the valley are ozone, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. The state and federal ambient air quality standards are summarized in table 3.4.1.

Ozone is a severe eye, nose, and throat irritant. It is also an oxidant that increases susceptibility to respiratory infections, and can cause substantial damage to vegetation and other materials. Ozone attacks synthetic rubber, textiles, plants, and other materials and can cause extensive cell damage and leaf discoloration in plants.

Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone primarily is a summer air pollution problem. The ozone precursors ROG and NO<sub>x</sub> are emitted by stationary combustion engines and mobile sources, such as construction equipment.

State and federal standards for ozone have been set for a 1-hour averaging time. The state requires that a 1-hour ozone standard of 0.09 parts per million (ppm) not be violated. The federal 1-hour ozone standard of 0.12 ppm is not to be violated more than three times in any 3-year period. As shown in table 3.4.1, pollutants at the monitoring station have consistently violated the state 1-hour ozone standard during the 3 most recent years for which data are available. The SJVAB is therefore classified as a non-attainment area for the state and federal ozone standards.

### **Carbon Monoxide**

CO is essentially inert to plants and materials but can have significant effects on human health. CO is a public health concern because it combines readily with hemoglobin and reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches to nausea to death.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Table 3.4.1

<b>Ambient Air Quality Standards</b>							
<b>Pollutant</b>	<b>Averaging Time</b>	<b>California Standards</b>	1	<b>Federal Standards 2</b>			
		<b>Concentration 3</b>	<b>Method 4</b>	<b>Primary 3,5</b>	<b>Secondary 3,6</b>	<b>Method 7</b>	
<b>Ozone (O3)</b>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	0.12 ppm (235 µg/m <sup>3</sup> ) <sup>8</sup>	Same as Primary Standard	Ultraviolet Photometry	
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )*		0.08 ppm (157 µg/m <sup>3</sup> ) <sup>8</sup>			
<b>Respirable Particulate Matter (PM10)</b>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic	20 µg/m <sup>3</sup>		50 µg/m <sup>3</sup>			
<b>Fine Particulate Matter (PM2.5)</b>	24 Hour	No Separate State	Standard	65 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	15 µg/m <sup>3</sup>			
<b>Carbon Monoxide (CO)</b>	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m <sup>3</sup> )	None	Non-Dispersive Infrared Photometry (NDIR)	
	1 Hour	20 ppm (23 mg/m <sup>3</sup> )		35 ppm (40 mg/m <sup>3</sup> )			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—			
<b>Nitrogen Dioxide (NO2)</b>	Annual Arithmetic	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	Gas Phase Chemiluminescence	
	1 Hour	0.25 ppm (470 µg/m <sup>3</sup> )		—			
<b>Sulfur Dioxide (SO2)</b>	Annual Arithmetic	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m <sup>3</sup> )	—	Spectrophotometry (Pararosaniline Method)	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (365 µg/m <sup>3</sup> )			
	3 Hour	—		—			0.5 ppm (1300 µg/m <sup>3</sup> ) <sup>3</sup>
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )		—			—
<b>Lead<sup>9</sup></b>	30 Day	1.5 µg/m <sup>3</sup>	Atomic	—	—	—	

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	Calendar Quarter			1.5 $\mu\text{g}/\text{m}^3$	Same as Primary Standard	High Volume Sampler and Atomic
<b>Visibility Reducing Particles</b>	8 Hour	Extinction coefficient of visibility of ten miles or more miles or more for Lake Tahoe) particles when relative humidity 70 percent. Method: Beta Transmittance through Filter	0.23 per kilometer — (0.07 — 30 due to is less than Attenuation and Tape.	<b>No Federal Standards</b>		
<b>Sulfates</b>	24 Hour	25 $\mu\text{g}/\text{m}^3$	Ion Chromatography			
<b>Hydrogen Sulfide</b>	1 Hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$ )	Ultraviolet Fluorescence			
<b>Vinyl Chloride 9</b>	24 Hour	0.01 ppm (26 $\mu\text{g}/\text{m}^3$ )	Gas Chromatography			
*This concentration was approved by the Air Resources Board on April 28, 2005 and was to become effective in early 2006.						

- California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter— $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$ , and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For  $\text{PM}_{10}$ , the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For  $\text{PM}_{2.5}$ , the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.
- New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.
- The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour standard is 20 ppm by volume, and the federal 1-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the 8-hour averaging period. The CO monitoring data collected for the 3 most recent years for which data are available show no violations of the state or federal CO standards. Stanislaus County is classified as an attainment area for the state and federal CO standards.

### **PM<sub>10</sub> AND PM<sub>2.5</sub>**

Health concerns associated with suspended particulate matter focus on particles small enough to reach the lungs when inhaled. Particulates can damage human health and retard plant growth. Particulates also reduce visibility, soil buildings and other materials, and corrode materials.

PM<sub>10</sub> emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic and construction equipment, and secondary aerosols formed by reactions in the atmosphere. The State PM<sub>10</sub> standards are 50 micrograms per cubic meter ( $\mu\text{m}^3$ ) as a 24-hour average and 30  $\mu\text{m}^3$  as an annual arithmetic mean. The federal PM<sub>10</sub> standards are 150  $\mu\text{m}^3$  as a 24-hour average and 50  $\mu\text{m}^3$  as an annual arithmetic mean. The SJVAB is therefore classified as a non-attainment area for the state and federal PM<sub>10</sub> standards.

PM<sub>2.5</sub> emissions are generated by a wide variety of sources, including fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel powered vehicles such as buses and trucks. PM<sub>2.5</sub> refers to particulate matter that is 2.5 micrometers or smaller in size, which is approximately 1/30 the size of a human hair; so small that several thousand of them could fit on the period at the end of this sentence. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds (all of which are also products of fuel combustion) are transformed in the air by chemical reactions. The state PM<sub>2.5</sub> standard is 12 micrograms per cubic meter ( $\mu\text{m}^3$ ) as an annual arithmetic mean. The federal PM<sub>10</sub> standards are 65  $\mu\text{m}^3$  as a 24-hour average and 15  $\mu\text{m}^3$  as an annual arithmetic mean. The SJVAB is therefore classified as a non-attainment area for the state and federal PM<sub>2.5</sub> standards.

### **3.4.2 Environmental Impacts**

Development activities associated with implementation of general plan update are expected to encourage new job-producing tourism, residential, commercial, and industrial development in the city of Waterford. Consequently, additional vehicle trip generation and resultant mobile source emissions of air pollutants, may occur. New industries accommodated in the city may produce air or liquid waste and/or emissions with unpleasant odors.

#### **A. Thresholds of Significance**

Appendix “G” of the CEQA Guidelines addresses potential impacts on Air Quality as follows:

***Could The Project:***

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

***ASSESSMENT OF AIR QUALITY***

**DEFINITIONS OF AIR QUALITY**

Air quality, as monitored by the San Joaquin Valley Air Pollution Control District (APCD), describes the ambient air, the air which people breathe outside of buildings as they go about their daily activities. Poor air quality, when air pollutants in the ambient air exceed established thresholds, is hazardous to health, diminishes the production and quality of many agricultural crops, reduces visibility, degrades soils materials, and damages native vegetation. The air pollutants of most concern in the APCD are ozone and particulate matter. Toxic air pollutants, odors, carbon monoxide, and dust are also pollutants of concern, but on a more limited and localized basis than ozone and particulate matter.

**DEFINITION OF TERMS**

*Carbon Monoxide (CO)* A colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing substances.

*Nitrogen Oxides (NO<sub>x</sub>)* Although there are a number of NO<sub>x</sub> compounds, only two are important in air pollution. These are: nitric oxide (NO), a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or pressure; and nitrogen dioxide (NO<sub>2</sub>), a reddish-brown irritating gas formed by the combination of nitric oxide and oxygen. NO<sub>x</sub> plays a critical role in the photochemical reaction that produces ozone.

*Ozone (O<sub>3</sub>)* The product of a series of complex chemical reactions and transformations between ROC and NO<sub>x</sub> in the presence of sunlight. Since ozone is formed in the atmosphere and not directly emitted by any source, it is known as a secondary pollutant. O<sub>3</sub> is the air pollutant of primary concern.

*Particulate Matter (PM<sub>10</sub>)* Fine solids or liquids in the atmosphere made up of dust, soot, aerosols, fumes and mists. Federal and state standards exist for particulate matter less than or equal to 10 microns in size (PM<sub>10</sub>).

*Reactive Organic Compounds (ROC)* A highly reactive group of hydrocarbons which play a critical role in the photochemical reactions that produce ozone.

*Sulfur Dioxide (SO<sub>2</sub>)* A colorless, pungent, irritating gas formed primarily by the combustion of sulfur-containing fossil fuels. During humid conditions, SO<sub>2</sub> may, through a series of chemical reactions with other materials, produce sulfate particulates.

*Toxic Air Pollutants* Substances in the air which are known or suspected to cause cancer, genetic mutations, birth defects, or other serious illness in people.

#### THRESHOLD CRITERIA

##### 1. Local Air quality

***Carbon Monoxide:*** A CO screening analysis should be conducted for any project exceeding 25 pounds per day of either ROG or NO<sub>x</sub> which may significantly impact roadway intersections which are currently operating at, or which are expected to operate at, Levels of Service E or F, or at any project-impacted roadway intersection at which there may be a CO hotspot.

#### METHODS

The screening analysis should be derived from CALINE3 and CALINE4, computer models developed by the California Department of Air Resources Control Board, and used to predict CO, NO<sub>2</sub>, particulate or other inert gaseous pollutant concentrations near roadways.

It is suggested that the full CALINE3 or CALINE4 model be used instead of the screening analysis for any projects or plans that will generate 10,000 or more vehicle trips per day. It is also advised that the complete CALINE3 or CALINE4 model be used for smaller projects if the simplified screening runs indicate that a CO standard may be exceeded.

***Toxic Air Pollutants:*** Any project that may release toxic or hazardous air pollutants to the atmosphere in amounts which may be injurious to nearby populations should be analyzed for potential toxic air pollutant impacts.

***Particulate Matter/Dust:*** Any project which may create, either during construction or operation, excessive amounts of fugitive dust or other particulate matter, should be analyzed for potential adverse impacts, including nuisances.

#### Regional Air Quality

a. Any general development project in the city capable of emissions of:

***Ozone Precursor Emissions:***

Reactive Organic Compounds (ROG): 10 tons/year

- Nitrogen Oxides (NO<sub>x</sub>): 10 tons/year

***PM<sub>10</sub> Emissions***

Compliance with SJVAPCD Regulation VIII reduces to less than significant.

**ASSESSMENT OF ODOR**

**DEFINITIONS OF ISSUE**

An odor is the property of a substance that affects the sense of smell. Not all odors are objectionable to all receptors. A particular odor may be so strong that it can be detected by the average person, but it may not be considered a significant odor impact.

**DEFINITIONS OF ODOR**

**Odors:** Any project which may create objectionable odors that may impact sensitive receptors located within a one-mile radius of the project site or emission source should be analyzed for potential odor impacts.

**THRESHOLD CRITERIA**

A significant environmental impact may exist when the air quality analysis concludes that emissions from a particular plan or proposal exceeds the following standards:

Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing Plant	1 mile
Fiberglass Manufacturing	1 mile
Paint/Coating Operations	1 mile
Rendering Plant	1 mile
Sanitary Landfills	1 mile
Food Processing Facility	1/2 mile
Wastewater Treatment Facilities	1/2 mile
Feed Lot/Dairy	1/2 mile
Poultry Farm	1/2 mile
Transfer Station	1/4 mile
Composting Facility	1/2 mile

Note: Distances are for screening purposes only. Odors may or may not be a problem for these facility types. Distances can vary significantly based on prevailing wind conditions, technology employed in the activity and the operating controls employed by the facility operator. If a facility or land use has the potential to create objectionable odors, it must submit a detailed air quality analysis listing all potential emissions and their concentrations.

***B. Potential Significant Impacts:***

Development activities associated with implementation of the general plan update are expected to encourage new job-producing tourism, residential, commercial, and industrial development in the city of Waterford. Consequently, additional vehicle trip generation and resultant mobile source emissions of air pollutants may occur. New industries accommodated in the city of Waterford may produce air or liquid waste and/or emissions with unpleasant odors.

*Air Quality Impacts Found Not to be Potentially Significant:*

As a result of project analysis, based on data collected in the evaluation of the city's proposed general plan implementation, the following aspects of a potential air quality impact are found not to exist or exist at levels well below any reasonable expectation that a significant adverse impact is likely to result:

- *Conflict with or obstruct implementation of the applicable air quality plan?*

The city's general plan does not conflict with, or obstruct, the implementation of the regional air quality plan. The general plan policies and goals have been formulated in a manner to support implementation of the regional air quality plan where feasible and practical. None of the proposed goals and policies of the plan conflict with adopted air quality plan goals and policies.

- *Expose sensitive receptors to pollutant concentration?*

The project is expected to generate automobile traffic that will affect air quality along adjacent streets and highways. Adjacent to such roadways, the measurable pollutant that is most significant is carbon monoxide (CO). Federal regulations require that new roadway improvement projects, which may be implemented using federal funds, must not exceed state or federal standard CO concentrations of 20 parts per million (PPM) for 1 hour (the federal maximum standard of 35 PPM is far less stringent than the state's maximum standard of 20 PPM).

Plan policies and standards will not result in the exposure of sensitive receptors to pollutant concentrations. The most likely direct impact in the categorical area would be the potential for CO concentrations around congested intersections. As a result of traffic and transportation planning, intersection congestion potential is not expected to occur in a manner that would result in the creation of CO concentrations.

*Air Quality Impacts Found to be Potentially Significant:*

As a result of project analysis, based on data collected in the evaluation of the city's proposed general plan, the following aspects of a potential air quality impact may result in a significant adverse environmental impact due to project implementation:

- *Create objectionable odors affecting a substantial number of people?*

Land uses such as dairy farms, poultry farms, and wastewater treatment facilities can generate unacceptable odors around residential areas. Plan policies and standards will not result in the creation of objectionable odors. city zoning and development standards provide guidance during the project review phase of a project to minimize the risk of objectionable odor impacting a number of people.

- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

General plan policies and standards will not directly result in the violation of any air quality standard but will contribute to an existing air quality violation with respect to ozone and PM<sub>10</sub> in the central San Joaquin Valley. However, the plan provides a long-term guide for growth and development in the city and, therefore, will have an indirect impact on air quality violations. Projects undertaken in conformance with the general plan policies and standards will be evaluated on their own merits with respect to air quality conformity and will be required to comply with all applicable standards and regulations employed by the air quality district for the purposes of reducing ozone and PM<sub>10</sub> emissions.

- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*

The San Joaquin Valley is designated as non-attainment under applicable federal and state standards for ozone and PM<sub>10</sub> emissions. Long-term growth throughout the Valley, including planned growth in the city of Waterford, will contribute to a cumulative net increase in this air pollution.

***C. Proposed General Plan Goals & Policies:***

The Waterford Vision 2025 General Plan Update contains many goals and policies that address concerns over air quality. Overall, proposed general plan policies with respect to Urban Expansion, Land Use, Urban Design, and Transportation/Circulation focus on creating a sustainable community that encourages alternative non-vehicular modes of transportation and reduces air pollution. The Sustainable Development Chapter contains specific goals and policies that address reduction of air quality impacts of urban growth and expansion in the city of Waterford.

- **Goal Area-            *Sustainable Development Goal Area SD-1: Air Quality***
  - SD-Clean Air, Free of Toxic Substances and Odor.**
  - SD-Clean Air with Minimal Particulate Content.**
  - SD-Effective and Efficient Transportation Infrastructure.**
  - SD-Coordinated and Cooperative Inter-Governmental Air Quality Program.**

**Policies:**

- SD-1.1** Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the city of Waterford.
- SD-1.2** Coordinate local air quality programs with regional programs and those of neighboring jurisdictions.
- SD-1.3** Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and a more livable environment.
- SD-1.4** Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality.

**SD-1.5** Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs.

**SD-1.6** Reduce emissions of PM<sub>10</sub> and other particulates with local control potential.

**Other Relevant Plans, Policies, and Regulations Regulatory Framework**

The county is located in the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). The SJVUAPCD has jurisdiction over air quality issues throughout the eight-county SJVAB. The district administers air quality regulations developed at the federal, state, and local levels. Air quality regulations applicable to the Waterford General Plan are described below. Recently the district adopted Rule 9510, the Indirect Source Review (ISR) rule for establishing and collecting fees to mitigate indirect source air impacts. The rule also provides an economic incentive for new development to apply mitigation measures to reduce air quality pollutants. The rule is summarized below:

***Rule 9510 Indirect Source Review (ISR)***

Adopted by the SJVUAPCD on December 15, 2005.

***Purpose***

The purposes of this rule are to:

- Fulfill the district's emission reduction commitments in the PM<sub>10</sub> and Ozone Attainment Plans.
- Achieve emission reductions from the construction and use of development projects through design features and on-site measures.
- Provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures.

***Applicability***

This rule shall apply to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full build-out will include any one of the following:

- 50 residential units;
- 2,000 square feet of commercial space;
- 25,000 square feet of light industrial space;
- 100,000 square feet of heavy industrial space;
- 20,000 square feet of medical office space;
- 39,000 square feet of general office space;
- 10,000 square feet of government space;
- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above.

This rule shall apply to any transportation or transit project where construction exhaust emissions equal or exceed two (2.0) tons of NO<sub>x</sub> or two (2.0) tons of PM<sub>10</sub>.

***Exemptions***

Transportation projects shall be exempt from the requirements in Sections 6.2 and transit projects shall be exempt from the requirements in Sections 6.2 and 7.1.2

Development projects that have a mitigated baseline below two (2.0) tons per year of NO<sub>x</sub> and two (2.0) tons per year of PM<sub>10</sub> shall be exempt from the requirements in Sections 6.0 and 7.0.

The following shall be exempt from the requirements of this rule:

- Reconstruction of any development project that is damaged or destroyed and is rebuilt to essentially the same use and intensity.
- Transportation Projects that consist solely of:
  - A modification of existing roads subject to District Rule 8061 that is not intended to increase single occupancy vehicle capacity, or,
  - Transportation control measures included in a District air quality attainment plan.
- A development project on a facility whose primary functions are subject to Rule 2201 (New and Modified Stationary Source Review Rule) or Rule 2010 (Permits Required), including but not limited to the following industries:
  - Aggregate Mining or Processing;
  - Almond Hulling, Canning Operations, Food Manufacturing, Grain Processing and Storage, Vegetable Oil Manufacturing, and Wineries;
  - Animal Food Manufacturing;
  - Confined Animal Facilities;
  - Coatings and Graphic Arts;
  - Cotton Ginning Facilities;
  - Energy Production Plants;
  - Ethanol Manufacturing;
  - Gas Processing and Production, Oil Exploration, Production, Processing, and Refining;
  - Glass Plants;
  - Solid Waste Landfills;
  - Petroleum Product Transportation and Marketing Facilities.

***Fee Schedules***

The costs of NO<sub>x</sub> reductions are as follows:

<b>Year</b>	<b>Cost of NOX Reductions (\$/ton)</b>
2006	\$4,650.00
2007	\$7,100.00
2008 and beyond	\$9,350.00

The costs of PM<sub>10</sub> reductions are as follows:

Year	Cost of PM <sub>10</sub> Reductions (\$/ton)
2006	\$2,907.00
2007	\$5,594.00
2008 and beyond	\$9,011.00

### **Federal Requirements**

The primary legislation that governs federal air quality regulations is the Clean Air Act Amendments of 1990. The act and amendments delegate primary responsibility for clean air to the Environmental Protection Agency (EPA). EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies.

EPA has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants (table 3.4.1). Criteria pollutants include CO, NO<sub>2</sub>, SO<sub>2</sub>, ozone, PM<sub>10</sub>, and lead.

If an area does not meet the federal NAAQS shown in table 11-1, federal clean air planning requirements specify that states develop and adopt State Implementation Plans (SIPs), which are air quality plans showing how air quality standards will be attained. In California, EPA has delegated authority to prepare SIPs to the California Air Resources Board (ARB), which, in turn, has delegated that authority to individual air districts.

The county is located in a federal non-attainment area for ozone and PM<sub>10</sub>. The SJVUAPCD has adopted a SIP that addresses PM<sub>10</sub>, ozone, and the ozone precursors NO<sub>x</sub> and ROG. The SIP specifies that the regional air quality standards for ozone and PM<sub>10</sub> can be met through additional source controls and through trip-reduction strategies. The SIP also establishes “emission budgets” for transportation and stationary sources. The budgets, developed through air quality modeling, reveal how much air pollution can occur in an area without causing violations of the NAAQS.

### **State Requirements**

ARB, which is part of the California Environmental Protection Agency (Cal-EPA), develops air quality regulations at the state level. The state regulations mirror federal regulations by establishing industry-specific pollution controls for criteria, toxic, and nuisance pollutants. California also requires areas to develop plans and strategies for attaining state ambient air quality standards as set forth in the California Clean Air Act of 1988 (table 3.4.1). In addition to developing regulations, ARB develops motor vehicle emission standards for California vehicles.

### **Local Requirements**

At the local level, the SJVUAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. Air quality is also managed through land use and development planning practices.

These practices are implemented in the city of Waterford through the general development permit review and approval process.

***D. Short-Term Impacts:***

Adoption of the Waterford General Plan Update will not have any immediate or short-term impact on air quality in the city. The plan, however, will re-affirm policy standards by which new growth and development will be evaluated with respect to impacts on local and regional air quality.

***E. Long-Term Impacts:***

Long term impact of growth and development are expected to result in increased traffic and the development of new sources of air pollution. This increase in emissions will contribute to the regional air quality problems.

***F. Cumulative Impacts:***

Development impacts resulting from this growth, both in the city and the region, will result in increased transportation and traffic congestion region-wide. This impact will contribute to the regional air quality problems. Emissions from other sources will also contribute to the regional air pollution.

***G. Secondary Impacts:***

The effects of increased levels of air pollution are discussed above. As a result of the region being in non-conformance with state and national air quality standards, both state and federal enforcement penalties could impose hardships on the region's population and economic development.

***3.4.3 Mitigation Measures***

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Policy guidance incorporated into the general plan minimizes potential impacts to regional air quality.

Mitigation of increased impacts on air quality within Waterford's planning area is typically addressed through the implementation of the development review process and implementation of the SJVUAPCD's Indirect Source Fee Program (Rule 9551). The city will participate in the district's impact fee program and require development mitigation as may be required by the district.

With the implementation of the air district's impact fee programs, rules, standards and regulations, no mitigation measures are feasible or proposed. With the implementation of these measures, however, the cumulative impacts of growth and development in the city and the region will result in a significant and unmitigable impact.

***3.4.4 Level of Significance After Mitigation***

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It can be expected that the growth resulting from the implementation of the Waterford General Plan will contribute to the significant regional air quality problem. Beyond the policies of the general plan, there is no practical mitigation that can be imposed that

would mitigate the adverse impacts on air quality in the Waterford urban area or the region to a less than significant level.

As a result of the analysis of potential project impacts on air quality, it can be concluded that the project will contribute to the cumulative deterioration of air quality as an overall consequence of regional growth and this is considered a “significant” adverse impact under CEQA.