

Air Quality

Chapter 3.3

SUMMARY OF FINDINGS

The proposed Project will result in *Less Than Significant Impacts* to Air Quality. This conclusion is supported by an air quality impact analysis prepared by consultants Alta Environmental. A review of potential impacts is provided in the following analysis and a detailed Air Quality Impact Analysis, including modeling output files, is included in Appendix "C" of this draft environmental impact report.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Air Quality. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in Section 15126.2 (a), “[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.”¹

The environmental setting provides a description of the Air Quality in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030

¹ CEQA Guidelines, Section 15126.2 (a)

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item questions. The following are potential thresholds for significance.

- Result in an exceedence of criteria pollutants as established in the 1990 Clean Air Act amendments.
- Result in an exceedence of San Joaquin Valley Unified Air Pollution Control District criteria pollutant threshold.
- Result in nuisance odors.
- Result in emissions of toxic air contaminants (TAC).
- 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.

ENVIRONMENTAL SETTING

“Tulare County falls within the southern portion of the San Joaquin Valley Air Basin (SJVAB), which is bordered on the east by the Sierra Nevada range, on the west by the Coast Ranges, and on the south by the Tehachapi Mountains. These features restrict air movement through and out of the SJVAB.

The topography of Tulare County significantly varies in elevation from its eastern to western borders, which results in large climatic variations that ultimately affect air quality. The western portion of the County is within the low-lying areas of the SJVAB. This portion of the County is much dryer in comparison to the eastern portion that is located on the slopes of the Sierra Nevada Mountains. The higher elevation contributes to both increased precipitation and a cooler climate.

Wind direction and velocity in the eastern section varies significantly from the western portion of the County. The western side receives northwesterly winds. The eastern side of the County exhibits more variable wind patterns, but the wind direction is typically up-slope during the day and down-slope in the evening. Generally, the wind direction in the eastern portion of the County is westerly; however terrain differences can create moderate directional changes.

Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This gradient of cooler air over warm air is known as the environmental lapse rate. Inversions occur when warm air sits over cooler air, trapping the cooler air near the ground. These inversions trap pollutants from dispersing vertically and the mountains surrounding the San Joaquin Valley trap the pollutants from dispersing horizontally. Strong temperature inversions occur throughout the Basin in the summer, fall, and winter. Daytime temperature inversions occur at elevations of 2,000 to 2,500 feet above

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

the San Joaquin Valley floor during the summer and at 500 to 1,000 feet during the winter. The result is a relatively high concentration of air pollution in the valley during inversion episodes. These inversions cause haziness, which in addition to moisture may include suspended dust, a variety of chemical aerosols emitted from vehicles, particulates from wood stoves, and other pollutants. In the winter, these conditions can lead to carbon monoxide “hotspots” along heavily traveled roads and at busy intersections. During summer’s longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between reactive organic gases (ROG) and oxides of nitrogen (NOx), which results in the formation of ozone.”²

Local Air Quality

The nearest State of California Air Resources monitoring station is located in Visalia, immediately east of the proposed Project site. Based on air quality data from this station, two measured air pollutants have generally exceeded state air quality standards. Ozone, the major ingredient of photochemical smog, exceeded the state one-hour standard of 0.10 parts per million (ppm) 46 days during 1983, 46 days in 1984, 38 days in 1985, 95 days in 1986, and 90 days in 1987. The state 24-hour standard for particulate matter, airborne particles of dust and smoke, is 50 ug/mg. In the years 1985, 1986, and 1987, the arithmetic mean for this standard was 68, 59, and 60 ug/mg, respectively.³

Attainment Status

“The published National Ambient Air Quality Standards (NAAQS) standards, both Federal and State represent a level of outdoor air pollution that are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be the same as or exceed more than once per year over three years. California has generally adopted more stringent standards for the criteria pollutants. If a pollutant concentration in an area is lower than the established standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard depending on the specific standard for the individual pollutants, the area is classified as a “non-attainment” area. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”⁴

The current attainment designations for the Air Basin are shown in Table 3.3-1

² Tulare County General Plan 2030 Update DEIR, page 3.3-9

³ California Environmental Protection Agency Air Resources Board. Air Quality Date (PST) Query Tool. <http://www.arb.ca.gov/aqmis2/aqdselect.php>. Accessed December, 2014.

⁴ Air Quality Impact Analysis and Greenhouse Gas Study for a Hot Mix Asphalt Plant. Page 5. Prepared by Alta Environmental. December 2014. [See Appendix “C” of this DEIR].

Table 3.3-1
San Joaquin Valley Air Basin Attainment Status⁵

Pollutant	Designation	
	National	State
Ozone—1-hour	No Federal Standard	<i>Nonattainment/Severe</i>
Ozone—8-hour	Nonattainment/Extreme	<i>Nonattainment</i>
PM10	Attainment	<i>Nonattainment</i>
PM2.5	Nonattainment	<i>Nonattainment</i>
Carbon monoxide	Attainment/Unclassified	<i>Attainment/Unclassified</i>
Nitrogen dioxide	Attainment/Unclassified	<i>Attainment</i>
Sulfur dioxide	Attainment/Unclassified	<i>Attainment</i>
Lead	No Designation/Classification	<i>Attainment</i>
Hydrogen sulfide	No Federal Standard	<i>Unclassified</i>
Sulfates	No Federal Standard	<i>Attainment</i>
Visibility-reducing particles	No Federal Standard	<i>Unclassified</i>
Vinyl chloride	<i>No Federal Standard</i>	<i>Attainment</i>

REGULATORY SETTING

Federal Agencies & Regulations

Clean Air Act

“The Federal Clean Air Act (CAA), adopted in 1970 and amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The act directs the Environmental Protection Agency (EPA) to establish ambient air standards, the National Ambient Air Quality Standards (NAAQS)... for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter (less than 10 microns in diameter [PM10] and less than 2.5 microns in diameter [PM2.5]), and sulfur dioxide. The standards are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety and the latter to protect environmental values, such as plant and animal life.

Areas that do not meet the ambient air quality standards are called “non-attainment areas”. The Federal CAA requires each state to submit a State Implementation Plan (SIP) for non-attainment areas. The SIP, which is reviewed and approved by the EPA, must demonstrate how the federal standards will be achieved. Failing to submit a plan or secure approval could lead to the denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. For cases in which the SIP is submitted by the State but fails to demonstrate achievement of the standards, the EPA is directed to prepare a federal implementation plan or EPA can “bump up” the air basin in question to a

⁵ San Joaquin Valley Unified Air Pollution Control District, Ambient Air Quality Standards & Valley Attainment Status.
<http://www.valleyair.org/aqinfo/attainment.htm>. Accessed September, 2014.

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

classification with a later attainment date that allows time for additional reductions needed to demonstrate attainment, as is the case for the San Joaquin Valley.

SIPs are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls. The California SIP relies on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. California State law makes the California Air Resources Board (CARB) the lead agency for all purposes related to the SIP. Local Air Districts and other agencies, such as the Bureau of Automotive Repair and the Department of Pesticide Regulation, prepare SIP elements and submit them to CARB for review and approval. The CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register.”⁶

**Table 3.3-2
State & National Criteria Air Pollutant Standards, Effects, and Sources⁷**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	(a) Decrease of pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; (f) Property damage.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO _x) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm ¹	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c)	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9.0 ppm		

⁶ Tulare County General Plan 2030 Update DEIR, pages 3.3-1 to 3.3-2

⁷ California Air Resources Board. 2013. Air Quality Standards. Updated 6/7/12. www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August, 2014.

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

				Impairment of central nervous system functions; (d) Possible increased risk to fetuses.	
Nitrogen Dioxide	1 hour	0.180 ppm	0.010 ppm	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration - Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Avg.	---	0.03 ppm		
Respirable Particulate Matter (PM10)	24 hours	50 mg/m ³	150 mg/m ³	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in PM2.5 levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 mg/m ³	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 mg/m ³		Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.
	Annual Avg.	12 mg/m ³	15 mg/m ³		

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

				medication use in children and adults with asthma.	
Lead	Rolling 3-Month Average NAAQS/ Monthly Avg. State	1.5 mg/m ³	0.15 mg/m ³	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction. The more serious effects of lead poisoning include behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs. Lead may also contribute to high blood pressure and heart disease.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 mg/m ³		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Geothermal Power Plants, Petroleum Production and refining
Sulfates	24 hour	25 mg/m ³	No National Standard	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage.	Produced by the reaction in the air of SO ₂ .
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.
ppm = parts per million; mg/m ³ = micrograms per cubic meter.					
1 This concentration was approved by the Air Resources Board on April 28, 2005 and became effective May 17, 2006.					

State Agencies & Regulations

California Clean Air Act

“The California CAA of 1988 establishes an air quality management process that generally parallels the federal process. The California CAA, however, focuses on attainment of the State ambient air quality standards..., which, for certain pollutants and averaging periods are more stringent than the comparable federal standards. Responsibility for meeting California’s standards is addressed by the CARB and local air pollution control districts (such as the eight county AIR DISTRICT, which administers air quality regulations for Tulare County). Compliance strategies are presented in district-level air quality attainment plans.

The California CAA requires that Air Districts prepare an air quality attainment plan if the district violates State air quality standards for criteria pollutants including carbon monoxide, sulfur dioxide, nitrogen dioxide, PM_{2.5}, or ozone. Locally prepared attainment plans are not required for areas that violate the State PM₁₀ standards. The California CAA requires that the State air quality standards be met as expeditiously as practicable but does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

The air quality attainment plan requirements established by the California CAA are based on the severity of air pollution caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.”⁸

California Air Resources Board

“The CARB is responsible for establishing and reviewing the State ambient air quality standards, compiling the California State Implementation Plan (SIP) and securing approval of that plan from the U.S. EPA. As noted previously, federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop SIPs. SIPs are comprehensive plans that describe how an area will attain NAAQS. The 1990 amendments to the Federal CAA set deadlines for attainment based on the severity of an area’s air pollution problem. State law makes CARB the lead agency for all purposes related to the SIP. The California SIP is periodically modified by the CARB to reflect the latest emission inventories, planning documents, and rules and regulations of various air basins. The CARB produces a major part of the SIP for pollution sources that are statewide in scope; however, it relies on the local Air Districts to provide emissions inventory data and additional strategies for sources under their jurisdiction. The SIP consists of the emission standards for vehicular sources and consumer products set by the CARB, and attainment plans adopted by the local air agencies as approved by CARB. The EPA reviews the air quality SIPs to verify conformity with CAA mandates and to ensure that they will achieve air quality goals when implemented. If EPA determines that a SIP is inadequate, it may prepare a Federal Implementation Plan for the nonattainment area, and may impose additional control measures.

In addition to preparation of the SIP, the CARB also regulates mobile emission sources in California, such as construction equipment, trucks, automobiles, and oversees the activities of air quality management districts and air pollution control districts, which are

⁸ Tulare County 2030 General Plan 2030 Update DEIR, page 3.3-1

organized at the county or regional level. The local or regional Air Districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their jurisdiction and for preparing the air quality plans that are required under the Federal CAA and California CAA.”⁹

Local Policy & Regulations

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (Air District) is made up of eight counties in California’s Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin portion of Kern.

The Air District is primarily responsible for regulating stationary source emissions within Tulare County and preparing the air quality plans (or portions thereof) for its jurisdiction. Air District’s primary approach of implementing local air quality plans occurs through the adoption of specific rules and regulations. Stationary sources within the jurisdiction are regulated by the Air District’s permit authority over such sources and through its review and planning activities. For example, the Air District adopted its Regulation VIII-(Fugitive PM¹⁰ Prohibitions), on October 21, 1993 and amended it on several occasions since then. This Regulation consists of a series of emission reduction rules intended to implement the PM10 Maintenance Plan. The PM10 Maintenance Plan emphasizes reducing fugitive dust as a means of achieving attainment of the federal standards for PM10. Regulation VIII specifically addresses the following activities:

- construction, demolition, excavation, extraction;
- handling and storage of bulk materials;
- landfill disposal sites;
- paved and unpaved roads; and
- vehicle and/or equipment parking, shipping and receiving, transfer, fueling, and service areas.

The Air District has limited authority to regulate transportation sources and indirect sources that attract motor vehicle trips.

- Rule 9510 (Indirect Source Review) requires developers to mitigate project emissions through 1) on-site design features that reduce trips and vehicle miles traveled, 2) controls on other emission sources, and 3) with reductions obtained through the payment of a mitigation fee used to fund off-site air quality mitigation projects. Rule 9510 requires construction related NOx emission reductions of 20 percent and PM10 reductions of 45 percent. Rule 9510 requires a 33 percent reduction in operational NOx emissions and a 50 percent reduction in PM10. The reductions are calculated by comparing the unmitigated baseline emissions and mitigated emissions from the first year of project operation. The Air District recommends using the [CalEEMOD] model to quantify project emissions and emission reductions. Rule 9510 was adopted to reduce the impacts of development on Air District’s attainment plans.

⁹ Tulare County 2030 General Plan 2030 Update DEIR, pages 3.3-6 to 3.3-7

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

Other Air District Rules and Regulations that affect development in Tulare County include, but not limited to:

- Rule 2201 (New and Modified Stationary Source Review): This rule requires new and modified stationary emission sources to implement best available control technology and to offset emissions exceeding thresholds contained in the rule. The rule implements the federal Title V permitting program for the San Joaquin Valley Air Basin.
- Rule 4101 (Visible Emissions): The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere. The provisions of this rule shall apply to any source operation which emits or may emit air contaminants.
- Rule 4102 (Nuisance): The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.
- Rule 4601 (Architectural Coatings): The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.
- Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations): The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641.
- Rule 4202 (Particulate Matter - Emission Rate): The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates. The calculation methods for determining the emission rate based on process weight are specified.
- Rule 4309 (Burners): The purpose of this rule is to require asphalt plant burners to achieve a NO_x PPM of 4.3 at 19% O₂ and a CO PPM of 42 at 19% O₂.

The Air District's Governing Board has also recently adopted the 2008 PM_{2.5} Plan. This plan highlights a variety of measures designed to achieve all the PM_{2.5} standards - the 1997 federal standards, the 2006 federal standards, and the state standard - as soon as possible.

The district has published a Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (Air District, page 1, 2002), an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. A major part of the GAMAQI includes a discussion of air quality control measures that are recommended for use in mitigating construction and operation-related impacts. The district has also published Air Quality Guidelines for General Plans (Air District, page 1-1, 2005), which provides guidance to local officials and staff on developing and implementing local policies and programs to be included in local jurisdictions' general plans."¹⁰

PM 2.5 Plan

"The 2012 PM_{2.5} Plan established the District's strategy for attaining the 2006 PM_{2.5}

¹⁰ Tulare County 2030 General Plan DEIR pages 3.3-7 to 3.3-8

standard as expeditiously as possible, and synthesizes the [Air] District's strategies for improving air quality and public health in the Valley. The [Air District has to] demonstrate attainment of the newest federal standards for fine particulate matter (PM2.5) as expeditiously as possible. Through this comprehensive attainment strategy, the Valley will achieve attainment of the federal PM2.5 standard by 2019... reducing NOx emissions, the predominant pollutant leading to the formation of PM2.5, by 55% over this period. In addition to these much-needed NOx reductions, the District's strategy also reduces direct PM2.5 emissions that not only assist the Valley in attaining the standard as fast as possible, but also reduce the PM2.5 emissions that pose the greatest health impacts to Valley residents."¹¹

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

AQ-1.3 Cumulative Air Quality Impacts - The County shall require development to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Applicants shall be required to propose alternatives as part of the State CEQA process that reduce air emissions and enhance, rather than harm, the environment.

AQ-1.4 Air Quality Land Use Compatibility - The County shall evaluate the compatibility of industrial or other developments which are likely to cause undesirable air pollution with regard to proximity to sensitive land uses, and wind direction and circulation in an effort to alleviate effects upon sensitive receptors.

AQ-1.5 California Environmental Quality Act (CEQA) Compliance - The County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonably mitigated when feasible.

AQ-1.7 Support Statewide Climate Change Solutions - The County shall monitor and support the efforts of Cal/EPA, CARB, and the SJVAPCD, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies. As appropriate, the County will evaluate each new project under the updated General Plan to determine its consistency with the emission reduction strategies.

AQ-2.3 Transportation and Air Quality - When developing the regional transportation system, the County shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in Tulare County. Some possible alternatives that should be studied are:

1. Commuter trains (Light Rail, Amtrak, or High Speed Rail) connecting with Sacramento, Los Angeles, and San Francisco, with attractive services scheduled up and down the Valley,
2. Public transportation such as buses and light rail, to serve between communities of the Valley, publicly subsidized if feasible,
3. Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, bus service to train stations and airports, and park and ride facilities, and

¹¹ San Joaquin Valley Air District, 2012 PM2.5 Plan. http://www.valleyair.org/air_quality_plans/pm25plans2012_old-122112.htm. Accessed September, 2014.

4. Community transportation systems supportive of alternative transportation modes, such as cycling or walking trails, with particular attention to high-density areas.

AQ-2.4 Transportation Management Associations - The County shall encourage commercial, retail, and residential developments to participate in or create Transportation Management Associations (TMAs) that may assist in the reduction of pollutants through strategies that support carpooling or other alternative transportation modes.

AQ-2.5 Ridesharing - The County shall continue to encourage ridesharing programs such as employer-based rideshare programs.

AQ-3.4 Landscape - The County shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing CO₂, producing oxygen, providing shade that reduces energy required for cooling, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development.

AQ-3.5 Alternative Energy Design - The County shall encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include, but are not limited to: building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.

AQ-4.1 Air Pollution Control Technology - The County shall utilize the BACM and RACM as adopted by the County to support SJVAPCD air quality attainment plans to achieve and maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

AQ-4.2 Dust Suppression Measures - The County shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities consistent with SJVAPCD Regulation VIII – Fugitive Dust Prohibitions. Techniques may include, but are not limited to, the following:

1. Site watering or application of dust suppressants,
2. Phasing or extension of grading operations,
3. Covering of stockpiles,
4. Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
5. Revegetation of graded areas.

AQ-4.3 Paving or Treatment of Roadways for Reduced Air Emissions - The County shall require that all new roads be paved or treated to reduce dust generation where feasible as required by SJVAPCD Regulation VIII, Rule 8061- Paved and Unpaved Roads. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured.

AQ-4.5 Public Awareness - The County shall promote public awareness of the seriousness and extent of the existing air quality problems.

AQ-4.6 Asbestos Airborne Toxic Control and Dust Protection - Asbestos is of concern to Tulare County because it occurs naturally in surface deposits of several types of ultramafic materials (materials that contain magnesium and iron and a very small amount of silica). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining.

Tulare County Climate Action Plan

AQ-1.8 Greenhouse Gas Emissions Reduction Plan/Climate Action Plan - The County will develop a Greenhouse Gas Emissions Reduction Plan (Plan) that identifies greenhouse gas emissions within the County as well as ways to reduce those emissions. The Plan will incorporate the requirements adopted by the California Air Resources Board specific to this issue. In addition, the County will work with the Tulare County Association of Governments and other applicable agencies to include the following key items in the regional planning efforts.

1. Inventory all known, or reasonably discoverable, sources of greenhouse gases in the County,
2. Inventory the greenhouse gas emissions in the most current year available, and those projected for year 2020, and
3. Set a target for the reduction of emissions attributable to the County's discretionary land use decisions and its own internal government operations.

AQ-1.9 Support Off-Site Measures to Reduce Greenhouse Gas Emissions - The County will support and encourage the use of off-site measures or the purchase of carbon offsets to reduce greenhouse gas emissions.

IMPACT EVALUATION

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) Would the project conflict with or obstruct implementation of the applicable air quality plan?**

Project Impact Analysis: *Less Than Significant*

The San Joaquin Valley Air Basin (SJVAB) is classified by the State as a nonattainment area for PM₁₀, and as discussed previously, Regulation VIII requires implementation of Best Available Control Measures (BACM) to address fugitive PM₁₀ emissions. The facility utilizes water trucks for dust suppression and water sprays throughout the process. The construction phase of this facility will be completed with minimal site preparation involving excavation and other earthmoving activities. All construction activities will be completed in accordance with Regulation VIII.

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

Short-term Impacts (Construction)

Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod) program and results can be seen in Table 3.3-3. Complete modeling inputs and outputs can be seen in attachment "J" of Appendix "C".

**Table 3.3-3
Emissions from Short-Term Project Impacts (Construction Phase)**

Emission Source	CO (tons/year)	NO_x (tons/year)	VOC/ROG (tons/year)	SO_x (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)
Demolition	0.041	0.051	0.006	0.000	0.007	0.004
Site Preparation	0.039	0.072	0.007	0.000	0.005	0.004
Grading	0.038	0.047	0.006	0.000	0.008	0.005
Building Construction	0.099	0.150	0.016	0.000	0.012	0.009
Paving	0.019	0.027	0.003	0.000	0.002	0.002
Architectural Coating	0.016	0.019	0.149	0.000	0.002	0.002
Total Emissions	0.2521	0.3662	0.1869	0.000	0.035	0.026
SJVAPCD Significance Level	100	10	10	27	15	15
Significant (Yes/No)?	NO	NO	NO	NO	NO	NO

As seen in Table 3.3-3, the estimated short-term emissions do not exceed the SJVAPCD threshold for each of the criteria pollutants and would therefore not obstruct implementation of any applicable air quality plan. Therefore, short-term impacts are ***Less Than Significant***.

Long-term Impacts (Operational)

Long-term (operational) impacts include emissions generated from permitted equipment and non-permitted equipment and activities.

Permitted equipment

Permitted equipment consists of the hot mix asphalt plant. The existing emissions have been estimated and utilized as baseline, based on the actual operations as baseline.

The aggregate material to the hot mix asphalt plant will be supplied from off-site aggregate operations. PM10 and PM2.5 emissions will be generated as a function of material handling and material processing. The conveyors and screens utilize water sprays on to the transfer points to mitigate fugitive emissions and to assure that no visible

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

emissions escape from this process. Complete existing and proposed operational emissions have been summarized in Table 3.3-4 (see Table 7 of Appendix "C" of this DEIR).

**Table 3.3-4
Existing and Proposed Permitted Operational Emissions**

Permitted Component Emission Source	CO (tons/year)	NO_x (tons/year)	VOC (tons/year)	SO_x (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)
Existing (Baseline) Emissions						
Aggregate Cold Feed	-	-	-	-	0.012	0.001
Asphalt Dryer	0.751	0.167	0.060	0.033	0.097	--
Silo Filling and Loadout	0.035	--	0.176	--	0.008	-
ExistingTotal	0.786	0.167	0.236	0.033	0.117	0.001
Cumulative Emissions						
Aggregate Cold Feed	--	--	--	--	0.219	0.024
Asphalt Dryer	13.500	3.000	1.075	0.600	1.750	--
Silo Filling and Loadout	0.632	--	3.172	--	0.137	--
Total	14.132	3.000	4.247	0.600	2.107	0.024
Project Emissions (Cumulative – Baseline)	13.347	2.833	4.011	0.567	1.990	0.023
SJVAPCD Threshold	100	10	10	27	15	15
Significant (Yes/No)?	NO	NO	NO	NO	NO	NO

As seen in Table 3.3-4, proposed Project long-term permitted operational emissions will not exceed the SJVAPCD thresholds of significance.

Non-permitted equipment and activities

Non-permitted activities and activities include on-site and off-site haul truck exhaust, storage piles, asphalt oil tanks, end loader exhaust, and oil heaters. Per SJVAPCD Section 6.6.6, Storage Equipment, the asphalt oil storage tanks qualify for a permit exemption due to the specific gravity of asphalt oil being greater than 0.9042. As a result, VOC emissions from asphalt oil storage tanks are included with non-permitted emissions sources listed in Table 3.3-5 (see Table 9 of Appendix "C" of this DEIR).

Emissions from the trucks traveling on the haul roads have been included in this analysis. Emissions were calculated using EMFAC2011 and from data in the Traffic Study (see Appendix "H" of this DEIR). Further detail on modeling inputs and outputs can be seen in Appendix "C" of this DEIR.

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

**Table 3.3-5
Existing and Proposed Non-Permitted Operational Emissions**

Non-Permitted Component	CO (tons/year)	NO_x (tons/year)	VOC (tons/year)	SO_x (tons/year)	PM10 (tons/year)	PM2.5* (tons/year)
Baseline Emissions						
Hot Oil Heater	0.292	1.085	0.058	0.005	0.063	-
Asphalt Oil Tanks	-	-	0.016	-	-	-
Paved Haul Roads	-	-	-	-	0.031	-
Truck Hauling	--	0.104	0.009	--	0.002	0.002
Haul Truck Idling	-	0.046	0.004	-	0.000	0.000
Employee Exhaust	-	0.000	0.000	-	0.000	0.000
Storage Piles	-	-	-	-	0.218	-
End Loader	0.389	448	0.143	0.027	0.022	0.022
Water Truck	--	0.002	0.000	--	0.000	0.000
Building Energy Use	--	--	--	--	--	--
Total	0.681	1.686	0.231	0.032	0.337	0.025
Cumulative Emissions						
Hot Oil Heater	0.292	1.085	0.058	0.005	0.063	-
Asphalt Oil Tanks	-	-	0.016	-	-	-
Paved Haul Roads	-	-	-	-	0.031	-
Truck Hauling	-	0.568	0.047	-	0.013	0.013
Haul Truck Idling	-	0.959	0.084	-	0.005	0.005
Employee Exhaust	-	0.007	0.009	-	0.000	0.000
Storage Piles	-	-	-	-	3.919	-
End Loader	1.083	1.250	0.400	0.075	0.062	0.062
Water Truck	--	--	--	--	--	--
Building Energy Use	1.798	0.552	0.312	0.003	0.188	0.056
Total	1.375	3.868	0.637	0.080	4.854	0.080
Net Change	2.493	2.760	0.722	0.051	4.705	0.112
SJVAPCD Threshold	100	10	10	27	15	15
Significant (Yes/No)?	NO	NO	NO	NO	NO	NO

* Combustion PM2.5 has been assumed to be equivalent to PM10 as stated in *South Coast AQMD Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM2.5 Significance Thresholds October 2006*.

Proposed Project long-term non-permitted operational emissions will not exceed the SJVAPCD thresholds of significance.

Additionally, high levels of localized CO concentrations associated with congested roadways with heavy traffic volumes result in CO hotspots. Based on the traffic study (Appendix H) for this facility, the proposed Project does not directly cause any of the study intersections to exceed a threshold of significance. The change in Level Of Service (LOS) results in LOS E or better; however, there is one existing LOS F intersection. Improvements at this intersection have already been planned by CalTrans and they will be initiated within five years, with funding coming from local and state sources. The proposed Project will not create a violation of the CO standard. As such, the proposed Project will not potentially conflict with or obstruct the implementation of the SJVAPCD's air quality plans. ***Less Than Significant Cumulative Impacts*** related this Checklist Item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Impact Analysis in Appendix H. Through the current air quality permit with the SJVAPCD, the proposed Project demonstrated its ability to meet the District's current policies and plans for maintaining emissions such that it allows attainment of State and Federal ambient air quality standards.

Asphalt facilities are required to utilize equipment and implement management procedures that ensures the operation meets the emissions standards for: Rule 4309 for NOx and CO: Rules 8011, 8021, 8031 and 8071 for fugitive PM10 emissions; and Rule 4101 for visible PM emissions. Meeting these standards involves utilization of state-of-the-art equipment and implementation of strong management practices. This includes the use of low NOx burners, maintaining moisture in raw aggregate materials, utilization of a baghouse, and application of vent condensers. To ensure the operation meets and maintains these thresholds, the facility maintains records and is required to perform a source test. Verification of compliance is performed by the SJVAPCD through inspections. ***Less Than Significant Impacts*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Project Impact Analysis: ***Less Than Significant Impact***

Tables 3.3-3, 3.3-4 and 3.3-5 show that annual emission rates of PM10, VOC and NOx for proposed Project operations are below the thresholds of significance as established by the San Joaquin Valley Air Pollution Control District. As a result, long term air quality impacts from either expansion scenario are not significant. Therefore, ***Less Than Significant Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impacts***

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

The geographic area of this cumulative analysis is the San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Impact Analysis prepared by consultants Alta Environmental and included as Appendix "C" of this DEIR. Since the proposed Project emissions will not exceed SJVAPCD thresholds, the Project will have a less than a significant impact. Therefore, ***Less Than Significant Cumulative Impacts*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required***

Conclusion: ***Less Than Significant Impacts***

As noted earlier, ***Less than Significant Impacts*** related to this Checklist Item will occur.

- c) **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)?**

Project Impact Analysis: ***Less Than Significant Impact***

The proposed Project will be required to receive applicable permits from the Air District and comply with applicable standards and rules/regulations. Therefore, the Project will have ***Less Than Significant Impacts*** related this Checklist Item.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. This cumulative analysis is based on the information provided in the Air Quality Impact Assessment prepared by consultants Alta Environmental and included as Appendix "C" of this DEIR.

The Project will be required to receive applicable permits from the Air District and comply with applicable standards and rules/regulations. Therefore, the Project will have a less than a significant impact and ***Less Than Significant Cumulative Impacts*** related this Checklist Item.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item will occur.

- d) **Expose sensitive receptors to substantial pollutant concentrations?**

Project Impact Analysis: ***Less Than Significant Impact***

Land surrounding the Project site is zoned AE-20 and AE-40 (Exclusive Agricultural – 20 acre minimum and 40 acre minimum, respectively) and contains agricultural uses and

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

scattered single-family residences. The proposed Project has scattered residential land uses to the north, east, and west of the Project site. The nearest residential property is located approximately 1,500 feet north of the proposed Project site while the closest off-site worker receptor is located approximately 2,500 feet to the north of the proposed Project.

As seen in Table 3.3-3, Criteria Pollutant emissions generated by construction-related activities are minimal; however, a Health Risk Assessment (HRA) was prepared for the operational phase of the proposed Project. The analysis evaluated potential public health effects from Toxic Air Contaminant (TAC) emissions from the proposed Project. The emission sources included the drum dryer unit vented to a baghouse, natural gas or propane gas combustion from the hot oil heater, filling and loadout of the silos, trucks traveling on-site, and trucks idling on-site.

The HRA was prepared in accordance with the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*¹² and *Guidance for Air Dispersion Modeling*¹³. Dispersion data was process through Hotspots Analysis and Reporting Program (HARP) On-Ramp, Version 1, and emissions data was incorporated into HARP Version 1.4f (modeling methodology and TAC emissions summary can be seen in Attachment J of Appendix C).

The SJVAPCD has adopted thresholds of significance to identify the environmental impact of a project. The thresholds of significance are outlined in the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The specific threshold limit for the Maximum Individual Cancer Risk (MICR) is 10 in a million and the limit for Chronic Hazard Index (HI) is 1.000. The results of the HARP can be seen in Table 3.3-6 (See Attachment "J" of Appendix "C" of this DEIR).

**Table 3.3-6
Maximum Cancer Risk at Sensitive Receptors**

Receptor	Maximum Project Impact	SJVAPCD Significance Threshold	Significant (Yes/No)?
Cancer Risk (Residential)	6.66 in one million	10 in one million	No
Cancer Risk (Worker)	0.61 in one million	10 in one million	No
Chronic HI	0.697	1.000	No

As demonstrated in Table 3.3-6, proposed Project emissions do not exceed the cancer exposure threshold for residents and workers of 10 in one million. The non-cancer

¹² California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spot Program Guidance Manual for Preparation of Health Risk Assessments. 2003. http://oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf. Accessed December, 2014.

¹³ San Joaquin Valley Air Pollution Control District. Guidance for Air Dispersion Modeling (Rev 2.0). 2007. http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm#modeling_guidance. Accessed December, 2014.

chronic hazard index was also below the threshold of 1.000. As such, any impacts to this Checklist Item are ***Less Than Significant***.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Air Basin. This cumulative analysis is based on the information provided in the HRA Analysis and with no direct impacts associated with this Project; it will not cumulatively increase the impact to other sensitive receptors. As the Project will result in ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item will occur.

e) Create objectionable odors affecting a substantial number of people?

Project Impact Analysis: ***Less Than Significant Impact***

"The GAMAQI requires that if a sensitive receptor is located within the one mile screening level of an asphalt plant, odor needs to be analyzed. Asphalt plants have a number of advanced technologies which are employed to address sources of odors from plant operations. Many of these technologies are considered Best Available Control Technology (BACT) by the SJVAPCD and as a result, are required as part of the permit required by the SJVAPCD.

The asphalt tanks utilize a vent condenser with the tank to capture emissions which are generated as a result of displaced air while tank filling occurs. Additionally, since the vent condenser is integral to the tank, it will also capture emissions when the tank experiences any standing losses.

The asphalt plant silo loading is controlled by venting the emissions to the dryer drum. This blend of particulate and vapors is collected through the drag slat and duct work. The collected emissions are drawn through the dryer burner and then vented through the baghouse."¹⁴ As a result of the BACT utilized by the proposed Project, the proposed Project will not create objectionable odors affecting a substantial number of people.

In addition, no odor complaints have been filed with the SJVAPCD within the last three years. Impacts will be ***Less Than Significant***.

Cumulative Impact Analysis: ***Less Than Significant Impact***

¹⁴ Air Quality Impact Analysis and Greenhouse Gas Study for a Hot Mix Asphalt Plant. Page 30. Prepared by Alta Environmental. December 2014. [See Appendix "C" of this DEIR]

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Impact Assessment.

As the Project will result in ***Less Than Significant Project-specific Impacts*** and ***Less Than Significant Cumulative Impacts*** related this Checklist Item will occur.

Mitigation Measure(s): ***None Required***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item will occur.

DEFINITIONS

Ambient Air Quality Standards - These standards measure outdoor air quality. They identify the maximum acceptable average concentrations of air pollutants during a specified period of time. These standards have been adopted at a State and Federal level.

Best Available Control Measures (BACM) - A set of programs that identify and implement potentially best available control measures affecting local air quality issues.

Best Available Control Technologies (BACT) - The most stringent emission limitation or control technique of the following: 1) Achieved in practice for such category and class of source, 2) Contained in any State Implementation Plan approved by the Environmental Protection Agency for such category and class of source. A specific limitation or control technique shall not apply if the owner of the proposed emissions unit demonstrates to the satisfaction of the Air Pollution Control Officer (APCO) that such a limitation or control technique is not presently achievable, 3) Contained in an applicable federal New Source Performance Standard, or 4) Any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be cost effective and technologically feasible for such class or category of sources or for a specific source.

Carbon Dioxide (CO₂) - A naturally occurring gas, and also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.

Carbon Monoxide (CO) - Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone).

Climate Change - Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Global Warming - Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.

Greenhouse Effect - Trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. Some of the heat flowing back toward space from the Earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the Earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.

Greenhouse Gas - Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro chlorofluorocarbons (HCFCs), ozone (O₃), hydro fluorocarbons (HFCs), per fluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Hydrogen Sulfide (H₂S) - Hydrogen sulfide is a highly toxic flammable gas. Because it is heavier than air, it tends to accumulate at the bottom of poorly ventilated spaces.

Lead (Pb) - Lead is the only substance which is currently listed as both a criteria air pollutant and a toxic air contaminant. Smelters and battery plants are the major sources of the pollutant "lead" in the air. The highest concentrations of lead are found in the vicinity of nonferrous smelters and other stationary sources of lead emissions. The EPA's health-based national air quality standard for lead is 1.5 micrograms per cubic meter (µg/m³) [measured as a quarterly average].

Metropolitan Planning Organization (MPO) - Tulare County Association of Governments (TCAG) is the MPO for Tulare County. MPO's are responsible for developing reasonably available control measures (RACM) and best available control measures (BACM) for use in air quality attainment plans and for addressing Transportation Conformity requirements of the federal Clean Air Act.

Mobile Source - A mobile emission source is a moving object, such as on-road and off-road vehicles, boats, airplanes, lawn equipment, and small utility engines.

Nitrogen Oxides (Oxides of Nitrogen, NO_x) - NO_x are compounds of nitric oxide (NO) and nitrogen dioxide (NO₂). NO_x are primarily created from the combustion process and are a major contributor to ozone smog and acid rain formation. NO_x also forms ammonium nitrate particulate in chemical reactions that occur when NO_x forms nitric acid and combines with ammonia. Ammonium nitrate particulate is an important contributor to PM₁₀ and PM_{2.5}.

Ozone (O₃) - Ozone is a pungent, colorless, toxic gas created in the atmosphere rather than emitted directly into the air. O₃ is produced in complex atmospheric reactions involving oxides of nitrogen, reactive organic gases (ROG), and ultraviolet energy from the sun in a photochemical reaction. Motor vehicles are the major sources of O₃ precursors.

Ozone Precursors - Chemicals such as non-methane hydrocarbons, also referred to as ROG, and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, a major component of smog.

Photochemical - Some air pollutants are direct emissions, such as the CO produced by an automobile's engine. Other pollutants, primarily O₃, are formed when two or more chemicals react (using energy from the sun) in the atmosphere to form a new chemical. This is a photochemical reaction.

Particulate Matter 2.5 Micrometers (PM_{2.5}) - The federal government has recently added standards for smaller dust particulates. PM_{2.5} refers to dust/particulates/aerosols that are 2.5 microns in diameter or smaller. Particles of this size can be inhaled more deeply in the lungs and the chemical composition of some particles is toxic and has serious health impacts.

Particulate Matter 10 Micrometers (PM₁₀) - Dust and other particulates exhibit a range of particle sizes. Federal and State air quality regulations reflect the fact that smaller particles are easier to inhale and can be more damaging to health. PM₁₀ refers to dust/particulates that

are 10 microns in diameter or smaller. The fraction of PM between PM_{2.5} and PM₁₀ is comprised primarily of fugitive dust. The particles between PM₁₀ and PM_{2.5} are primarily combustion products and secondary particles formed by chemical reactions in the atmosphere.

Reactive Organic Gas (ROG) - A photo chemically reactive chemical gas composed of non-methane hydrocarbons that may contribute to the formation of smog. This is also sometimes referred to as Volatile Organic Compounds (VOCs).

Reasonable Available Control Measures (RACM) - A broadly defined term referring to technologies and other measures that can be used to control pollution. They include Reasonably Available Control Technology and other measures. In the case of PM₁₀, RACM refers to approaches for controlling small or dispersed source categories such as road dust, woodstoves, and open burning. Regional Transportation Planning Agencies are required to implement RACM for transportation sources as part of the federal ozone attainment plan process in partnership with the Air District.

Reasonable Available Control Technologies (RACT) - Devices, systems, process modifications, or other apparatus or techniques that are reasonably available, taking into account: the necessity of imposing such controls in order to attain and maintain a national ambient air quality standard; the social, environmental, and economic impact of such controls; and alternative means of providing for attainment and maintenance of such a standard.

San Joaquin Valley Air Basin (SJVAB) - An air basin is a geographic area that exhibits similar meteorological and geographic conditions. California is divided into 15 air basins to assist with the statewide regional management of air quality issues. The SJVAB extends in the Central Valley from San Joaquin County in the north to the valley portion of Kern County in the south.

San Joaquin Valley Unified Air Pollution Control District (Air District or SJVAPCD) - The Air District is the regulatory agency responsible for developing air quality plans, monitoring air quality, developing air quality regulations, and permitting programs on stationary/industrial sources and agriculture and reporting air quality data for the SJVAB. The Air District also regulates indirect sources and has limited authority over transportation sources through the implementation of transportation control measures (TCM).

Sensitive Receptors - Sensitive receptors are defined as land uses that typically accommodate sensitive population groups such as long-term health care facilities, rehabilitation centers, retirement homes, convalescent homes, residences, schools, childcare centers, and playgrounds.

Sensitive Population Groups - Sensitive population groups are a subset of the general population that are at greater risk than the general population to the effects of air pollution. These groups include the elderly, infants and children, and individuals with respiratory problems, such as asthma.

Sulfur Dioxide (SO₂) - Sulfur dioxide belongs to the family of SO_x. These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes.

Stationary Source - A stationary emission source is a non-mobile source, such as a power plant, refinery, or manufacturing facility.

Sulfates - Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. SO_x can form sulfuric acid in the atmosphere that in the presence of ammonia forms ammonium sulfate particulates, a small but important component of PM₁₀ and PM_{2.5}. Sulfates increase the acidity of the atmosphere and form acid rain.

Transportation Conformity - A federal requirement for transportation plans and projects to demonstrate that they will not result in emissions that exceed attainment plan emission budgets or exceed air quality standards.

Transportation Control Measures (TCMs) - Any measure that is identified for the purposes of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions.

Transportation Management Agencies - Transportation Management Agencies are private, non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center, or industrial park. Transportation Management Agencies are appropriate for any geographic area where there are multiple employers or businesses clustered together that can benefit from cooperative transportation management or parking brokerage services. Regional and local governments, business associations, and individual businesses can all help establish Transportation Management Agencies.

Transportation Management Associations (TMAs) - Groups of employers uniting together to work collectively to manage transportation demand in a particular area.

Tulare County Association of Governments (TCAG) - TCAG is the Transportation Planning Agency (TPA) for Tulare County. TCAG is also designated as a Metropolitan Planning Organization (MPO), the agency responsible for preparing long range Regional Transportation Plans and demonstrating Transportation Conformity with air quality plans.

Wood-burning Devices - Wood-burning devices are designed to burn “solid fuels” such as cordwood, pellet fuel, manufactured logs, or any other non-gaseous or non-liquid fuels.

ABBREVIATIONS AND ACRONYMS

ACM	Asbestos Containing Materials
BACM	Best Available Control Measures
BACT	Best Available Control Technologies
CAA	Clean Air Act
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
EPA or US EPA	Environmental Protection Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
HCFCs	Hydro chlorofluorocarbons

Draft Environmental Impact Report
Papich Construction Asphalt Batch Plant Project

HFCs	Hydro fluorocarbons
HI	Hazard Index
H ₂ S	Hydrogen Sulfide
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen Dioxide
NESHAPs	National Environmental Standards for Hazardous Air Pollutants
MPO	Metropolitan Planning Organization
O ₃	Ozone
Pb	Lead
PFCs	Per fluorocarbons
PM _{2.5}	Particulate Matter 2.5 Micrometers
PM ₁₀	Particulate Matter 10 Micrometers
RACM	Reasonable Available Control Measures
RACT	Reasonable Available Control Technologies
ROG	Reactive Organic Gases
SEKI	Sequoia and Kings Canyon National Park
SIP	State Implementation Plan
SF ₆	Sulfur Hexafluoride
SO ₂	Sulfur Dioxide
AIR DISTRICT	San Joaquin Valley Air Pollution Control District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SJVAB	San Joaquin Valley Air Basin
TAC	Toxic Air Contaminants
TCAG	Tulare County Association of Governments
TCM	Transportation Control Measures
URBEMIS	Urban Emissions model
VOC	Volatile Organic Compound

REFERENCES

"Air Quality Impact Analysis and Greenhouse Gas Study for a Hot Mix Asphalt Plant" prepared by Alta Environmental, December 2014. [See Appendix "C" of this DEIR]

California Air Resources Board. 2013. Air Quality Standards. Updated 6/7/12.
www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August, 2014.

California Environmental Protection Agency Air Resources Board. Air Quality Data (PST) Query Tool. <http://www.arb.ca.gov/aqmis2/aqdselect.php>. Accessed December, 2014.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spot Program Guidance Manual for Preparation of Health Risk Assessments. 2003. http://oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf.

CEQA Guidelines, Section 15126.2 (a)

San Joaquin Valley Air District, 2012 PM2.5 Plan.

http://www.valleyair.org/air_quality_plans/pm25plans2012_old-122112.htm. Accessed September, 2014.

San Joaquin Valley Unified Air Pollution Control District, Ambient Air Quality Standards & Valley Attainment Status. <http://www.valleyair.org/aqinfo/attainment.htm>. Accessed September, 2014.

San Joaquin Valley Air Pollution Control District. Guidance for Air Dispersion Modeling (Rev 2.0). 2007.

http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm#modeling_guidance. Accessed December, 2014.

Tulare County General Plan 2030 Update DEIR, pages 3.3-1, 2, 6, 7, 8, 9