

DRAFT ENVIRONMENTAL IMPACT REPORT

Lombardi Development Project

November 2021

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Draft Environmental Impact Report
Lombardi Development Project

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TABLE OF CONTENTS

CHAPTER ONE - INTRODUCTION

1.1 Purpose of EIR	1-1
1.2 Environmental Process	1-2
1.3 EIR Summary	1-2

CHAPTER TWO – PROJECT DESCRIPTION

2.1 Project location and Surrounding Use	2-1
2.2 Objectives	2-2
2.3 Project Description	2-5
2.4 Other Public Agencies Involved	2-6

CHAPTER THREE – ENVIRONMENTAL SETTING, IMPACTS & MITIGATION

3.1 Air Quality	3-1
3.2 Biological Resources	3-49
3.3 Greenhouse Gas Emissions	3-60
3.4 Energy Resources	3-90
3.3 Transportation	3-99

CHAPTER FOUR – PROJECT ALTERNATIVES

4.1 – Introduction	4-1
4.2 – Project Objectives and Significant Impacts	4-1
4.3 – No Project	4-2

CHAPTER FIVE – CEQA CONSIDERATIONS

5.1 – Growth-Inducing Impacts	5-1
5.2 – Irreversible Environmental Changes	5-2
5.3 – Significant and Unavoidable Impacts	5-2

CHAPTER SIX – PREPARERS

6.1 – List of Preparers	6-1
6.2 – Persons and Agencies Consulted	6-1

LIST OF FIGURES

1 – Location	2-3
2 – Site Aerial	2-4
3 – Site Plan	2-7
4 – Project Site with a 1,000 Foot Buffer	3-45
5 – GHG Emissions by Economic Sector	3-64

LIST OF TABLES

1 – California and National Ambient Air Quality Standards	3-3
2– San Joaquin Valley Air Basin Attainment Status	3-17
3 – Ambient Air Quality Summary	3-18
4 – SJVAPCD Significance Thresholds	3-28

5 – Construction Emissions – Unmitigated	3-33
6 – Summary of Overlapping Phase One Operational and Phase Two Construction Criteria Air Pollutants – Unmitigated	3-34
7 – Summary of Operational Emissions of Criteria Air Pollutants - Unmitigated	3-35
8 – Localized Concentrations of PM ₁₀ , PM _{2.5} , CO, and NOX for Construction	3-40
9 – Health Risks from Project Construction at the Maximally Exposed Sensitive Receptor (Unmitigated)	3-46
10 – Health Risks from Project Construction at the Maximally Exposed Sensitive Receptor (Mitigated)	3-46
11 – Construction Greenhouse Gas Emissions	3-80
12 – Operational Greenhouse Gas Emissions	3-81
13 – Project Consistency with Applicable 2017 Scoping Plan Greenhouse Gas Reduction Strategies	3-83
14 – Project Consistency with Applicable SJVAPCD CCAP GHG Reduction Measures	3-84
15 – Project Consistency with Applicable Tulare COG Goals	3-86
16 – Construction Off-Road Fuel Consumption	3-93
17 – Construction On-Road Fuel Consumption	3-94
18 – Construction Trailer	3-95
19 – Long-Term Operational Vehicle Fuel Consumption	3-95
20 – Project Trip Generation	3-102
21 – Project Trip Distribution	3-102
22 – Intersection Level of Service Weekday PM Peak Hour	3-104
23 – Intersection Level of Service Weekday AM Peak Hour	3-105
24 – Traffic Signal Warrants Weekday PM Peak Hour	3-106
25 – Traffic Signal Warrants Weekday AM Peak Hour	3-106
26 – Roadway Level of Service	3-107
27 – Future Intersection Improvements and Local Mitigation	3-107
28 – Future Roadway Improvements and Local Mitigation	3-108

APPENDICES

A – Notice of Preparation/Initial Study

B – Air Quality, Greenhouse Gas and Energy Emissions Report

C – Traffic Study

Chapter 1

INTRODUCTION

INTRODUCTION

This draft Environmental Impact Report (EIR) has been prepared on behalf of the City of Porterville (City) in accordance with the California Environmental Quality Act (CEQA). This chapter outlines the purpose of and overall approach to the preparation of the EIR for the construction and operation of the Lombardi Development Project (Project), also referred to as Brookside Subdivision. The City of Porterville is the Lead Agency responsible for ensuring that the proposed Project complies with CEQA.

It is the intent of this EIR to provide the City of Porterville, decision makers, and the general public with the relevant environmental information to use in considering the required approval for the proposed Project. The City will use this EIR for the discretionary approvals of entitlements required to develop the proposed Project.

1.1 Purpose of EIR

This document is an Environmental Impact Report (EIR) prepared in accordance with the California Environmental Quality Act CEQA of 1970 and CEQA Guidelines, as amended. This EIR has been prepared by the City of Porterville as the "Lead Agency," in consultation with the appropriate local, regional and state agencies.

The purpose of the EIR is to inform the public generally of the significant environmental effects of the project, identify possible ways to minimize the significant effects, and describe reasonable alternatives that support the objectives of the project. As defined by the CEQA Guidelines, Section 15382, a "significant effect on the environment" is as follows:

"... a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

An Initial Study was prepared by the City of Porterville (City) for the Lombardi Development Project (Project). The Initial Study determined the Project could have potentially significant impacts in the areas of air quality, biological resources, energy, greenhouse gas emissions and transportation. The City, therefore, determined that an EIR would be required for the project. This EIR is a concentrates on the potentially significant impacts of the project on four environmental issue areas: air quality, biological resources, energy, greenhouse gas emissions and transportation. All other impact areas were determined to either have no impact or have a

less than significant impact (with or without mitigation). This EIR references the Initial Study prepared for the project for all other areas of impact analysis not provided in this EIR (see Appendix A).

1.2 Environmental Process

A Notice of Preparation of the EIR was circulated to the public and public agencies from July 10, 2021 to August 9, 2021 (State Clearinghouse #2021070158) (refer to Appendix A). This Draft EIR will be circulated for agency and public review during a 45-day public review period prior to consideration of the Final EIR by the lead agency. Comments received by the City on the Draft EIR will be formally addressed by the City in the Final EIR.

The decision making body must certify that it has reviewed and considered the information in the Final EIR and that the EIR has been completed in conformity with the requirements of CEQA. Although the EIR does not control the lead agency's ultimate decision on the project, the City must consider the information in the EIR and respond to each significant effect identified in the EIR. If significant adverse environmental effects are identified in the EIR, approval of the project must be accompanied by written findings and a statement of overriding considerations.

State law requires that a public agency adopt a monitoring program for mitigation measures that have been incorporated into the approved project to reduce or avoid significant effects on the environment. The purpose of the monitoring program is to ensure compliance with environmental mitigation during project implementation and operation. Since there are potentially significant impacts requiring mitigation associated with the project, a Mitigation Monitoring Program will be included in the EIR.

1.3 EIR Summary

Project Description Summary

The proposed Project consists of an Annexation, General Plan Amendment, Rezone and a Tentative Subdivision Map to allow for the construction of up to 230 single-family residential units on a 56-acre site. Parcels to be annexed include 245-010-087, -092, -037 and -041 for a total of approximately 69.65 acres. It should be noted though that the portion of APN 254-010-087 that is on the west side of the Friant-Kern Canal will not be included in the annexation area.

Environmental Impacts and Mitigation Summary

Based on the analysis in this EIR and accompanying Initial Study, the proposed Project would not result in any significant, unavoidable contributions to any impact areas. Mitigation measures are included in the MMRP.

Alternatives Evaluated

The EIR analyzed the No Project Alternative and a Reduced Project Alternative. The Reduced Project Alternative consists of decreasing the size of the proposed project. The EIR determined that the Reduced Project Alternative would be the environmentally superior alternative, although it would not fully meet the project's objectives.

Areas of Controversy

During the environmental review process, the City of Porterville identified the following as areas of concern: air quality, biological resources, energy, greenhouse gas emissions and transportation.

Chapter 2

PROJECT DESCRIPTION

Project Description

2.1 Project Location and Surrounding Use

The City of Porterville is located in Tulare County in the southern part of the San Joaquin Valley. The 69-acre Project site is located in northwest Porterville, bounded to the west by N. Westwood Street, to the south by W. Westfield Avenue, and to the east by N. Lombardi Street. Residential subdivisions lie to the west, east, and south. Summit Charter Academy, Lombardi Campus lies directly north, with a diagonal of the Friant-Kern Canal along the northwest corner. See Figure 1. Porterville is bisected north to south by State Route (SR) 65 and SR 190 runs east-west in the southern portion of the City.

The Project site is currently in use with primarily agricultural activities. Two rural residences associated with the agricultural activities exist in the Project area; one along W. Westfield Avenue and one along N. Lombardi Street. Both residences are adjacent to vacant areas utilized for storage and staging heavy agricultural equipment.

Lands directly surrounding the proposed Project are described as follows:

- North: Summit Charter Academy, Lombardi Campus and a portion of the Friant-Kern Canal, designated as Public Land and Park Land.
- South: Residential development and vacant land, designated as Low Density and Medium Density Residential.
- East: Residential development, vacant land and agriculture, designated as Very Low and Low Density Residential.
- West: Residential development, designated as Low Density Residential.

The General Plan identifies the Project site as being within the Low Medium Density Residential, Medium Density Residential, Neighborhood Commercial, and Parks and Recreation designations as well as within a neighborhood center. The zoning map shows the site as rezoned to the RS-1 (Very Low Density Residential) zone with the Residential Neighborhood (RN) Overlay District. The RN Overlay District is intended to implement neighborhood town centers and neighborhood design guidelines by requiring that development conforms to the underlying land uses illustrated on the Land Use Diagram

2.2 Objectives

The following are the primary goals of the City of Porterville's Lombardi Development Project (Project):

- To provide a housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area.
- To provide a sense of community and walkability within the development through the use of street patterns, a park, landscaping and other project amenities.
- To provide a residential development that is compatible with surrounding land uses and is near major services.
- To provide an economically feasible residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.

Figure 1 - Location

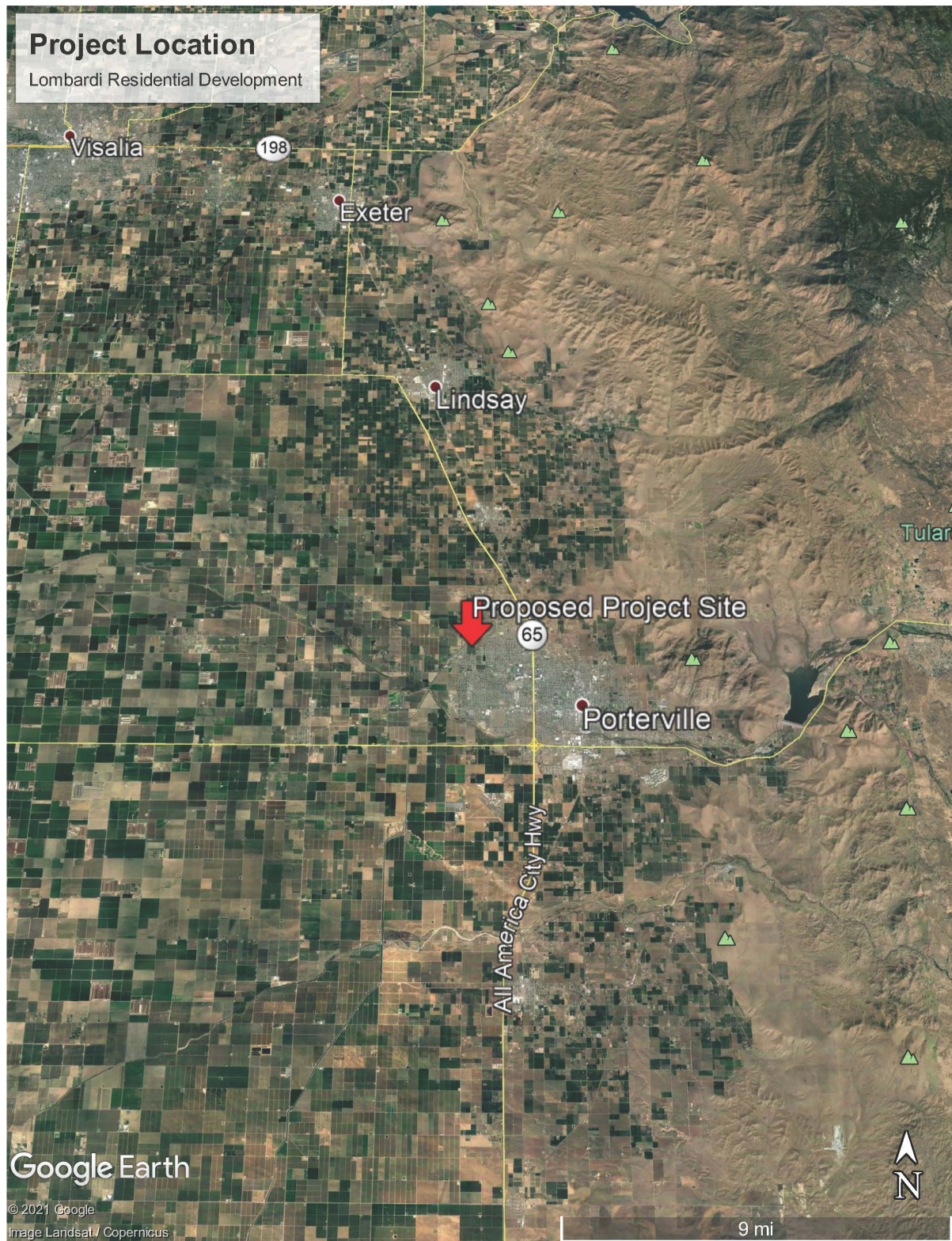


Figure 2 – Site Aerial



2.3 Project Description

The proposed Project consists of an Annexation, General Plan Amendment, Rezone and a Tentative Subdivision Map to allow for the construction of up to 230 single-family residential units. Parcels to be annexed include 245-010-087, -092, -037 and -041 for a total of approximately 69.65 acres. The 56-acre subdivision would be developed on Assessor Parcel Number 245-010-087. The Project site is located between N. Westwood Street and N. Lombardi Street, bounded to the south by W. Westfield Avenue.

Project Components

- Construction of 230 single family residential units.
- Development of a 2.99 acre park in the center of the residential development.
- Construction of local roads with five points of ingress/egress; one on the southern boundary of the property off W. Westfield Avenue, one on the western boundary off N. Westwood Street, one on the northern boundary off an unnamed street adjacent to the Summit Charter Academy, Lombardi Campus, and two on the eastern boundary off N. Lombardi Street.
- Improvement of all streets in or adjacent to the subdivision, in accordance with the approved improvements plans, per Section 407.02(h) of the Porterville Development Ordinance.
- Development of a subdivision tree and landscaping design to be approved by the City. At least one tree will be planted on each residential lot and street trees will be planted at 35 feet on center along all parkways within and/or bordering the subdivision.
- Development of a Landscape plan, in accordance with Chapter 303 of the Porterville Development Ordinance.
- Change the land use designation of APN 245-010-087 from the combination of Low Medium Density Residential, Medium Density Residential, Neighborhood Commercial, and Parks and Recreation to Low Medium Density Residential in its entirety.
- Change the rezoning of APN 245-010-087 from RS-1 (Very Low Density Residential) to RS-2 (Low Density Residential).
- Annexation of the portion of APN 245-010-087 southeast of the Friant-Kern Canal (56.32 acres), -041 (1.00 acre), -037 (1.06 acres) and -092 (11.27 acres). Summit Charter Academy, Lombardi Campus, is on APN 245-010-087, and rural houses are on -037 and -041. The only physical changes proposed with this Project will occur on APN 245-010-087 and the frontages of APNs 245-010-37 and -041. The portion of APN 245-010-087 northwest of the Friant-Kern Canal will be left in agriculture and will not be annexed.

- Cancellation of Williamson Act contract Number 05126 and disestablishment of Ag Preserve 2034

Project Operations

Upon Annexation, General Plan Amendment to change the land use designation, and Rezone, the proposed Project would be in be within City Limits and compliant with land use requirements. Water, sewage disposal and refuse collection services will be provided by the City of Portville and the applicant will be required to tie into the City's existing facilities. The proposed Project would require gas, telephone, cable, and electrical improvements. Natural gas would be provided by The Gas Company; telephone services would be provided by AT&T; electric power would be provided by Southern California Edison Company; and cable television would be provided by Charter Communication. The extent of work required for utilities and gas would be determined during final project design.

2.4 Other Public Agencies Involved

- Approval of Williamson Act Cancellation by Tulare County Board of Supervisors.
- Annexation approval by Tulare County LAFCo.
- Approval of a Stormwater Pollution Prevention Plan by the Central Valley Regional Water Quality Control Board.
- Dust Control Plan Approval letter from the San Joaquin Valley Air Pollution Control District.
- Compliance with other federal, state and local requirements.
- Tribal Consultation - The City notified the following California Native American Tribes pursuant to SB 18 (Government Code Section 65352.3) and AB 52 (Public Resources Code Section 21080.3.1, et seq.) on April 29, 2021 and May 11, 2021, respectively. Tribes were provided 30 days and 90 days, respectively, to request consultation pursuant to those statutes. No comments were received.
 - Big Sandy Rancheria of Western Mono Indians
 - Dunlap Band of Mono Indians
 - Kern Valley Indian Community
 - Santa Rosa Rancheria Tachi Yokut Tribe
 - Tubatulabals of Kern Valley
 - Tule River Indian Tribe
 - Wuksache Indian Tribe/Eshom Valley band

[illegible]

Chapter 3

ENVIRONMENTAL ANALYSIS

Environmental Setting, Impacts & Mitigation

An Air Quality, Greenhouse Gas, and Energy Impact Assessment was prepared for the proposed Project by Stantec Consulting Services, Inc. (report date July 23, 2021). The complete impact assessment is provided in Appendix B of this EIR. The results of the report modeling and analysis are presented in the discussion below (3.1 Air quality, 3.3 Greenhouse Gas, & 3.4 Energy).

3.1 Air Quality

Environmental Setting¹

The proposed project is located within the San Joaquin Valley Air Basin (SJVAB). The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates air quality in eight counties including: Fresno, Kern, (western and central), Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare.

Air pollution in the SJVAB can be attributed to both human-related (anthropogenic) and natural (non-anthropogenic) activities that produce emissions. Air pollution from significant anthropogenic activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources.

Activities that tend to increase mobile activity include increases in population, increases in general traffic activity (including automobiles, trucks, aircraft, and rail), urban sprawl (which will increase commuter driving distances), and general local land management practices as they pertain to modes of commuter transportation. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

*Climate Topography*²

The following information is excerpted from the most recent version of the SJVAPCD Guide for Assessing, and Mitigating Air Quality Impacts (GAMAQI) adopted in March 2015 (SJVAPCD 2015a).

The SJVAB has an “inland Mediterranean” climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone);

¹ Air Quality, Greenhouse Gas, and Energy Impact Assessment, Lombardi Development Project. Page 3.1. Prepared by Stantec Consulting Services, Inc. July 23, 2021. Appendix B.

² Ibid, 3.1-3.2.

the Basin averages over 260 sunny days per year. The SJVAB is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the SJVAB form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Southeast Desert Air Basin portion of Kern County. As the wind moves through the Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

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 SJVAB in the summer, fall, and winter. Daytime temperature inversions occur at elevations of 2,000 to 2,500 feet above 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 (NO_x), which results in the formation of ozone.

Because of the prevailing daytime winds and time-delayed nature of ozone, concentrations are highest in the southern portion of the Basin. Summers are often periods of hazy visibility and occasionally unhealthy air, while winter air quality impacts tend to be localized and can consist of (but are not exclusive to) odors from agricultural operations; soot or smoke around residential, agricultural, and hazard-reduction wood burning; or dust near mineral resource recovery operations.

Criteria Air Pollutants³

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) required that the United States Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas standards established for the prevention of environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The air quality regulatory framework and ambient air quality standards are discussed in greater detail later in this report. Table 1 provides a summary of the California and National Ambient Air Quality Standards.

Table 1: California and National Ambient Air Quality Standards⁴

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Ozone	1 Hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
Respirable Particulate Matter	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
Fine Particulate Matter	24 Hour	—	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	
Carbon Monoxide	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	—
	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	—
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	—	—

³ Ibid, 3.2-3.3.

⁴ Ibid, 3.3-3.4.

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Nitrogen Dioxide	1 Hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	—
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary Standard
Sulfur Dioxide	1 Hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	—
	3 Hour	—	—	0.5 ppm (1,300 µg/m³)
	24 Hour	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)	—
	Annual Arithmetic Mean	—	0.030 ppm (for certain areas)	—
Lead	30-Day Average	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m³	
Visibility-Reducing Particles	8 Hour	See Footnote 1	No National Standards	
Sulfates	24 Hour	25 µg/m³		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m³)	—	

Notes:

¹ In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

µg/m³ = micrograms per cubic meter

mg/m³ = milligrams per cubic meter

The following provides a summary discussion of the primary and secondary criteria air pollutants of primary concern. In general, primary pollutants are directly emitted into the atmosphere, and secondary pollutants are formed by chemical reactions in the atmosphere.

*Ozone*⁵

⁵ Ibid, 3.4-3.5.

Ozone (O₃) is a reactive gas consisting of three atoms of oxygen. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends to a level approximately 10 miles above the surface where it meets the second layer, the stratosphere. While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system.

Ozone, a colorless gas which is odorless at ambient levels, is the chief component of urban smog. Ozone is not directly emitted as a pollutant but is formed in the atmosphere when hydrocarbon and NO_x precursor emissions react in the presence of sunlight. Meteorology and terrain play major roles in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and cloudless skies provide the optimum conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often impacts a large area.

Sources of precursor gases number in the thousands and include common sources such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Emissions of the ozone precursors ROG and NO_x most commonly originate from motor vehicles, as well as commercial and industrial uses.

Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Long-term exposure to ozone is linked to aggravation of asthma and is likely to be one of many causes of asthma development. Long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children. People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from ozone exposure.

Reactive Organic Gases and Volatile Organic Compounds⁶

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases, including Volatile Organic Compounds (VOCs) and Reactive Organic Gases (ROGs). ROGs include all hydrocarbons except those exempted by CARB. Therefore, ROGs are a set of

⁶ Ibid, 3.5.

organic gases based on state rules and regulations. VOCs are like ROGs in that they include all organic gases except those exempted by federal law.

Both VOCs and ROGs are emitted from incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects related to hydrocarbons stem from ozone (see discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate national or California ambient air quality standards for ROG. Carcinogenic forms of ROG, such as benzene, are also considered toxic air contaminants (TACs).

Nitrogen Dioxide and Nitrogen Oxides⁷

Nitrogen dioxide (NO₂) is one of a group of highly reactive gases known as “oxides of nitrogen (NO_x).” NO₂ is the component of greatest interest and the indicator for the larger group of NO_x. It forms quickly from emissions from cars, trucks, and buses, powerplants, and off-road equipment. NO_x is a strong oxidizing agent that reacts in the air to form corrosive nitric acid as well as toxic organic nitrates.

NO_x is emitted from solvents and combustion processes in which fuel is burned at high temperatures. Mobile sources (including on-road and off-road vehicles) and stationary sources such as electric utilities and industrial boilers, constitute a majority of the statewide NO_x emissions. To a lesser extent, area-wide sources, such as residential heaters, gas stoves, and managed burning and disposal, also contribute to total state-wide NO_x emissions. NO_x is also linked to the formation of ground-level ozone and fine particle pollution (see discussion above for ozone and particulate pollution for additional discussion of health-related impacts).

Direct inhalation of NO_x can cause a wide range of health effects. NO_x can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO₂ may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO₂ may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects are an increase in the incidence

⁷ Ibid, 3.5-3.6.

of chronic bronchitis and lung irritation. Chronic exposure may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NO_x can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_x can also impair visibility.

NO_x also contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins that are harmful to aquatic life).

Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates low pH conditions and levels of aluminum that are toxic to fish and other aquatic organisms. NO_x also contributes to haze and visibility impairment.

Particulate Matter⁸

Particulate matter (PM) is a mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, sulfates, and organic compounds; and complex mixtures such as diesel exhaust and soil. PM_{2.5} includes fine particles with a diameter of 2.5 microns or smaller and is a subset of PM₁₀. These particles come in many sizes and shapes and can be made up of hundreds of different chemicals. Some particles, known as primary particles, are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks, or fires. Others form in complicated reactions in the atmosphere of chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industries, and automobiles. These particles, known as secondary particles, make up most of the fine particle pollution in the country.

Area-wide sources account for about 65 and 83% of the statewide emissions of directly emitted PM_{2.5} and PM₁₀, respectively. The major area-wide sources of PM_{2.5} and PM₁₀ are fugitive dust, especially dust from unpaved and paved roads, agricultural operations, and construction and demolition. Sources of PM₁₀ include crushing or grinding operations, and dust stirred up by vehicles traveling on roads.

⁸ Ibid, 3.6-3.7.

Sources of PM_{2.5} include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes.

Exhaust emissions from mobile sources contribute only a very small portion of directly emitted PM_{2.5} and PM₁₀ emissions but are a major source of the VOC and NO_x that form secondary particles.

PM_{2.5} and PM₁₀ particles are small enough to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases; heart and lung disease; and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. PM_{2.5} and PM₁₀ can aggravate respiratory disease and cause lung damage, cancer, and premature death.

Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis are especially vulnerable to the effect of PM₁₀. Non-health-related effects include reduced visibility and soiling of buildings.

Carbon Monoxide⁹

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. CO is emitted by mobile and stationary sources because of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive.

CO enters the bloodstream and binds more readily to hemoglobin, the oxygen-carrying protein in blood, than oxygen, thereby reducing the oxygen-carrying capacity of blood and reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. Exposure to CO can cause chest pain in heart patients, headaches, and reduced mental alertness. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and, with prolonged enclosed exposure, death.

⁹ Ibid, 3.7-3.8.

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina.

Sulfur Dioxide¹⁰

Sulfur Dioxide (SO₂) is one of a group of highly reactive gases known as “oxides of sulfur (SO_x).” It is a colorless, irritating gas with a “rotten egg” smell that is formed primarily by the combustion of sulfur-containing fossil fuels. The largest source of SO₂ in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content. State and national ambient air quality standards for SO₂ are designed to protect against exposure to the entire group of sulfur oxides (SO_x). SO₂ is the component of greatest concern and is used as the indicator for the larger group of gaseous sulfur oxides.

High concentrations of SO₂ can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO₂ levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer term exposures to high concentrations of SO₂ in conjunction with high levels of particulate matter include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs’ defenses. The subgroups of the population that may be affected under these conditions include individuals with heart or lung disease, as well as the elderly and children.

Together, SO₂ and NO_x are the major precursors to acidic deposition (acid rain), which is associated with the acidification of soils, lakes, and streams and accelerated corrosion of buildings and monuments. SO₂ also is a major precursor to PM_{2.5}, which is a significant health concern, and a main contributor to poor visibility.

¹⁰ Ibid, 3.8.

Lead¹¹

Lead (Pb) is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing. Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. The effects of lead are the same regardless of the path of exposure. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles.

Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High level exposure in men can damage the organs responsible for sperm production.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood.

Hydrogen Sulfide¹²

Hydrogen Sulfide (H₂S) is a colorless gas with the odor of rotten eggs. H₂S occurs naturally and is also produced by human activities. H₂S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. It can also result during bacterial decomposition of sulfur-containing organic substances. Emissions of H₂S associated with human activities including various industrial activities,

¹¹ Ibid, 3.8-3.9.

¹² Ibid, 3.9-3.10.

such as oil and gas production, refining, sewage treatment plants, food processing, and confined animal feeding operations.

Studies in humans suggest that the respiratory tract and nervous system are the most sensitive targets of H₂S toxicity. Exposure to low concentrations of H₂S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Respiratory distress or arrest has been observed in people exposed to very high concentrations of H₂S. Exposure to low concentrations of H₂S may cause headaches, poor memory, tiredness, and balance problems. Brief exposures to high concentrations of H₂S can cause loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in some individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. H₂S is extremely hazardous in high concentrations, especially in enclosed spaces. In some instances, exposure to high concentrations can cause death.¹³

Other Pollutants¹⁴

The State of California has established air quality standards for some pollutants not addressed by federal standards. The CARB has established State standards for hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. Below is a summary of these pollutants and a description of the pollutants' physical properties, health and other effects, sources, and the extent of the problems.

Sulfates¹⁵

Sulfates (SO₄) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO₂ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The CARB sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilator function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property.

Visibility Reducing Particles¹⁶

Visibility Reducing Particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Vinyl Chloride¹⁷

Vinyl Chloride is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Odors¹⁸

Typically, odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid, 3.11.

is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Neither the state nor the federal governments have adopted rules or regulations for the control of odor sources. The SJVAPCD does not have an individual rule or regulation that specifically addresses odors; however, odors would be subject to SJVAPCD Rule 4102, Nuisance. Any actions related to odors would be based on citizen complaints to local governments and the SJVAPCD.

Toxic Air Contaminants¹⁹

TACs are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered “criteria pollutants” under either the FCAA or the California Clean Air Act (CCAA) and are thus not subject to National or California ambient air quality standards (NAAQS and CAAQS, respectively). Instead, the EPA and the CARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (BACT) to limit emissions. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act

¹⁹ Ibid, 3.11-3.12.

sets forth a formal procedure for CARB to designate substances as TACs. The following provides a summary of the primary TACs of concern within the State of California and related health effects:

*Diesel Particulate Matter*²⁰: Diesel Particulate Matter (DPM) was identified as a TAC by the CARB in August 1998. DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 42% of the statewide total, with an additional 55% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3% of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities (CARB 2013).

In October 2000, the CARB issued a report entitled: Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, which is commonly referred to as the Diesel Risk Reduction Plan (DRRP). The DRRP provides a mechanism for combating the DPM problem. The goal of the DRRP is to reduce concentrations of DPM by 85% by the year 2020, in comparison to year 2000 baseline emissions. The key elements of the DRRP are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, and to lower the sulfur content of diesel fuel to protect new, and very effective, advanced technology emission control devices on diesel engines. When fully implemented, the DRRP will significantly reduce emissions from both old and new diesel fueled motor vehicles and from stationary sources that burn diesel fuel. In addition to these strategies, the CARB continues to promote the use of alternative fuels and electrification. As a result of these actions, DPM concentrations and associated health risks in future years are projected to decline (CARB 2013). In comparison to year 2010 inventory of statewide DPM emissions, CARB estimates that emissions of DPM in 2035 will be reduced by more than 50%.

DPM is typically composed of carbon particles (“soot”, also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and NO_x. NO_x emissions from diesel engines are important because they can undergo chemical reactions in the atmosphere leading to formation of PM_{2.5} and ozone.

²⁰ Ibid, 3.12-3.13.

In California, diesel exhaust particles have been identified as a carcinogen accounting for an estimated 70% of the total known cancer risks in California. DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over an estimated 70-year lifetime. Non- cancer health effects associated with exposure to DPM include premature death, exacerbated chronic heart and lung disease, including asthma, and decreased lung function in children. Short-term exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks (CARB 2016b).

Individuals most vulnerable to non-cancer health effects of DPM are children whose lungs are still developing and the elderly who often have chronic health problems. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to DPM (CARB 2016b). In addition to its health effects, DPM significantly contributes to haze and reduced visibility.

*Asbestos*²¹: Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings constructed prior to its ban for use in buildings in 1977. Exposure to naturally occurring asbestos can occur during soil disturbing activities in areas with deposits present.

²¹ Ibid, 3.13-3.14.

Valley Fever²²

Valley Fever is an infection caused by a fungus that lives in the soil. About 10,000 U.S. cases are reported each year, mostly from Arizona and California. Valley fever can be misdiagnosed because its symptoms are like those of other illnesses.

The fungus that causes Valley fever, *Coccidioides*, is found in the southwestern United States, parts of Mexico and Central America, and parts of South America. The fungus grows naturally and is endemic in many areas along the southwestern region of Tulare County. People can get this infection by breathing in fungal spores from the air, especially when the wind blows the soil with the fungal spores into the air or the dirt is moved by human activity. About 40% of the people who come into contact with the fungal spores will develop symptoms that may require medical treatment and the symptoms will not go away on their own. Some people may develop a more severe infection, especially those with compromised immune systems (Centers for Disease Control and Prevention [CDC] 2020).

Attainment Status²³

The United States EPA and CARB designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual standard for PM_{2.5} is met if the 3-year average of the annual average PM_{2.5} concentration is less than or equal to the standard.

The current attainment designations for the SJVAB are shown in Table 2. The SJVAB is designated as nonattainment for ozone, PM₁₀, and PM_{2.5}.

²² Ibid.

²³ Ibid.

Table 2: San Joaquin Valley Air Basin Attainment Status²⁴

Pollutant	Designation/Classification	
	Federal Standards ^a	State Standards ^b
Ozone – One hour	No Federal Standard ^f	Nonattainment/Severe
Ozone – Eight Hour	Nonattainment/Extreme ^e	Nonattainment
PM ₁₀	Attainment ^c	Nonattainment
PM _{2.5}	Nonattainment ^d	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
Notes: a See 40 CFR Part 81 b See CCR Title 17 Sections 60200-60210 c On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM ₁₀ National Ambient Air Quality Standard (NAAQS) and approved the PM ₁₀ Maintenance Plan. d The Valley is designated nonattainment for the 1997 PM _{2.5} NAAQS. EPA designated the Valley as nonattainment for the 2006 PM _{2.5} NAAQS on November 13, 2009 (effective December 14, 2009). e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010). f Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.		

Ambient Air Quality²⁵

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the Project. Table 3 summarizes published monitoring data for the most recent three-year period available from the nearest monitoring station at 1839 S. Newcomb Street Porterville, California, approximately

²⁴ Ibid, 3.15.

²⁵ Ibid.

4.01 miles south of the project site. The data shows that during the past few years, the SJVAB has exceeded the ozone, PM₁₀, and PM_{2.5} standards.

Table 3: Ambient Air Quality Summary²⁶

Air Pollutant	Averaging Time	Item	2017	2018	2019
Ozone	1 Hour ^a	Max 1 Hour (ppm)	0.100	0.093	0.081
		Days > State Standard (0.09 ppm)	4	0	0
	8 Hour	Max 8 Hour (ppm)	0.090	0.085	0.073
		Days > State Standard (0.070 ppm)	34	38	7
		Days > National Standard (0.070 ppm)	97	97	94
		Days > National Standard (0.075 ppm)	96	97	92
Carbon Monoxide	8 Hour	Max 8 Hour (ppm)	X	X	X
		Days > State Standard (9.0 ppm)	X	X	X
		Days > National Standard (9.0 ppm)	X	X	X
Nitrogen dioxide	Annual	Annual Average (ppm)	X	X	X
	1 Hour	Max 1 Hour (ppm)	58	63	64
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide	Annual	Annual Average (ppm)	X	X	X
	24 Hour	Max 24 Hour (ppm)	X	X	X
		Days > State Standard (0.04 ppm)	X	X	X
Inhalable coarse particles (PM ₁₀)	Annual (National)	Annual Average (µg/m ³)	X	X	X
	Annual (State)	Annual Average (µg/m ³)	X	X	X
	24 hour	24 Hour (µg/m ³) National	X	X	X
		24 Hour (µg/m ³) State	X	X	X
		Days > State Standard (50 µg/m ³)	X	X	X
		Days > National Standard (150 µg/m ³)	X	X	X
	Annual (National)	Annual Average (µg/m ³)	ID	ID	ID

²⁶ Ibid, 3.16.

Air Pollutant	Averaging Time	Item	2017	2018	2019
Fine particulate matter (PM2.5)	Annual (State)	Annual Average (µg/m³)	ID	16.4	ID
	24 Hour	24 Hour (µg/m³) National	ID	ID	ID
		24 Hour (µg/m³) State	ID	ID	ID
		Days > National Standard (35 µg/m³)	ID	ID	ID
Notes: > = exceed ppm = parts per million g/m3 = micrograms per cubic meter a = The Federal 1 hour Ozone Standard was revoked in June 2005; California retained a 1 hour Ozone Standard ID = insufficient data X = No data available because concentrations are no longer monitored max = maximum Bold = exceedance State Standard = CAAQS National Standard = NAAQS Sulfur dioxide is reported on a statewide basis as it is no longer monitored locally					

The health impacts of the various air pollutants of concern can be presented in several ways. The clearest in comparison is to the state and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount the standard is exceeded. Based on the air quality monitoring data, between 27 and 47 unhealthy ozone air days and up to 90 days with unhealthy PM₁₀ levels and up to 27 days with unhealthy PM_{2.5} levels.

Unhealthy air quality levels can pose a risk to those most sensitive to air pollution such as the elderly, asthmatics, children, etc. The higher the air pollution levels rise the greater the population it affects.

Local Sources of Air Pollution²⁷

The Project's site is located in a predominately urban setting with agricultural uses to the northwest. The main sources of air pollution are mobile sources traveling along the nearby roadways that surround the Project site. Nearby sources of air pollution include emissions from vehicles on North Westfield Avenue, North Lombardi Street, and North Westwood Street.

²⁷ Ibid, 3.17.

Sensitive Receptors²⁸

Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. For purposes of CEQA, the SJVAPCD considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools.

The project site is located within 1,000 feet from existing sensitive receptors that could be exposed to diesel emission exhaust during the construction and operational periods. The nearest sensitive receptors are residents occupying the single-family houses adjacent to the project site to the east, south, and west. In addition, the Summit Charter Academy Lombardi Campus lies immediately north of the project site and the lot on which it lies will be annexed into the project site. Additionally, William R. Buckley Elementary School lies approximately 750 feet southwest of the project site.

Regulatory Setting²⁹

Air quality within the project area is regulated by several jurisdictions including the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD). Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

Federal³⁰

U.S. Environmental Protection Agency

At the federal level, the EPA has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the EPA to establish NAAQS, and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary

²⁸ Ibid.

²⁹ Ibid, 3.18.

³⁰ Ibid.

standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS are summarized in Table 1.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the EPA established the NESHAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs. Among these sources include asbestos-containing building materials (ACBMs). NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACBMs associated with the demolition and renovation of structures.

State³¹

California Air Resources Board

The CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used. The CAAQS are summarized in Table 1.

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for O₃, CO, SO₂, and NO₂ by the earliest practical date. The CCAA specifies that districts focus attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5% annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

³¹ Ibid, 3.19-3.21.

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC.

Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

Assembly Bill 617

In response to AB 617 (C. Garcia, Chapter 136, Statutes of 2017), the CARB established the Community Air Protection Program. The Community Air Protection Program includes community air monitoring and community emissions reduction program's focus is to reduce exposure in communities most impacted by air pollution. The Legislature has appropriated funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in these communities, as well as grants to support community participation in the AB 617 process. AB 617 also includes new requirements for accelerated retrofit of pollution controls on industrial sources, increased penalty fees, and greater transparency and availability of air quality and emissions data, which will help advance air pollution control efforts throughout the State.

Portable Equipment Registration Program

Owners or operators of portable engines and certain other types of equipment can register their units under the CARB's Statewide Portable Equipment Registration Program (PERP). PERP allows registered equipment to be operated throughout California without having to obtain individual permits from local air districts. To qualify, equipment must meet eligibility requirements, including applicable emissions standards.

Naturally-Occurring Asbestos Regulations

CARB has adopted two Airborne Toxic Control Measures (ATCMs) which regulates the control of Naturally Occurring Asbestos (NOA) associated with construction, surfacing, grading, mining, and quarrying activities. The NCUAQMD is responsible for enforcing Asbestos ATCMs. There are no known likely areas of NOA in the Project area.

Regulatory Attainment Designations

Under the CCAA, CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for O₃, CO, and NO₂ as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO₂, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM₁₀ based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated “unclassified.”

As discussed previously, the SJVAB is designated as nonattainment for the federal ozone and PM_{2.5} standards. The SJVAB is nonattainment for State ozone, PM₁₀, and PM_{2.5} standards.

Regional³²

San Joaquin Valley Air Pollution Control District

The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the SJVAB, within which the proposed project is located. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting

³² Ibid, 3.21-3.22

stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA.

SJVAPCD Rules and Regulations

The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the project include but are not limited to the following:

Rule 2010 – Permits Required. The purpose of this rule is to require any person constructing, altering, replacing or operating any source operation which emits, may emit, or may reduce emissions to obtain an Authority to Construct or a Permit to Operate. This rule also explains the posting requirements for a Permit to Operate and the illegality of a person willfully altering, defacing, forging, counterfeiting or falsifying any Permit to Operate.

Rule 2201 – New and Modified Stationary Source Review Rule. The purpose of this rule is to provide for the following:

- The review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards; and
- No net increase in emissions above specified thresholds from new and modified Stationary Sources of all nonattainment pollutants and their precursors.

Rule 4002 – National Emission Standards for Hazardous Air Pollutants. This rule incorporates the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations (CFR) and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations (CFR).

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 4623 – Storage of Organic Liquids. The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids.

Rule 4624 – Transfer of Organic Liquids. The purpose of this rule is to limit volatile organic compound (VOC) emissions from the transfer of organic liquids.

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.

Regulation VIII – Fugitive PM₁₀ Prohibitions. Rule 8011-8081 are designed to reduce PM₁₀ emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

Rule 9510 – Indirect Source Review. This rule reduces the impact of NO_x and PM₁₀ emissions from growth on the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria to reduce emissions through onsite mitigation, offsite District-administered projects, or a combination of the two. This project must comply with Rule 9510 because it would develop more than 2,000 square feet of commercial space.

CEQA³³

The SJVAPCD has three roles under CEQA:

Lead Agency: responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the District where the District has primary approval authority over the project.

Responsible Agency: The discretionary authority of a Responsible Agency is more limited than a Lead Agency; having responsibility for mitigating or avoiding only the environmental effects of those parts of the project which it decides to approve, carry out, or finance. The District defers to the Lead Agency for preparation of environmental documents for land use projects that also have discretionary air quality permits unless no document is prepared by the Lead Agency and potentially significant impacts related to the permit are possible. The District comments on documents prepared by Lead Agencies to ensure that District concerns are addressed.

³³ Ibid, 3.23-3.24.

Commenting Agency: The District reviews and comments on air quality analyses prepared by other public agencies (such as the project).

The SJVAPCD also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance as well as state regulations to control air pollution is an overall improvement in the Air Basin. In particular, the SJVAPCD's 2015 GAMAQI states the following:

1. The District's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. The general plan is the primary long-range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.
2. The Air Quality Guidelines for General Plans (AQGGP), adopted by the District in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1. When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The District strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs.

*Local*³⁴

Porterville General Plan Policies

The City of Porterville General Plan's Open Space and Conservation Element includes the following policies related to air quality that are applicable to the proposed project.

- OSC-G-9: Improve and protect Porterville's air quality by making air quality a priority in land use and transportation planning and in development review.

³⁴ Ibid, 3.24-3.25.

- OSC-I-58: Continue to assess air quality impacts through environmental review and require developers to implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.

The City will use the San Joaquin Valley Air Pollution Control District (SJVAPCD) Guidelines for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The City shall cooperate with the SJVAPCD in the review of development proposals.

BMPs could include transportation demand management strategies for large development projects such as:

- Providing bicycle access and parking facilities;
 - Providing preferential parking for high-occupancy vehicles, carpools, or alternative fuels vehicles;
 - Establishing telecommuting programs or satellite work centers;
 - Allowing alternative work schedules;
 - Subsidizing public transit costs for employee; and
 - Scheduling deliveries at off-peak traffic periods.
- OSC-I-59: Require preparation of a Health Risk Assessment for any development subject to the Air Toxics “Hot Spots” Act.
- Require dust control measures as a condition of approval for subdivision maps, site plans, and all grading permits.
- OSC-I-61: Coordinate air quality planning efforts with other local, regional and State agencies.
 - OSC-I-63: Notify local and regional jurisdictions of proposed projects that may affect regional air quality.

Thresholds of Significance

*CEQA Guidelines*³⁵

According to the CEQA Guidelines' Appendix G Environmental Checklist, the following questions are analyzed and evaluated to determine whether impacts to air quality are significant environmental effects.

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

Will the Project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) 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?
- c) Expose sensitive receptors to substantial pollutant concentrations?
- d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, the SJVAPCD recommends that its quantitative air pollution thresholds (shown in Table 4) be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts.

Table 4: SJVAPCD Significance Thresholds³⁶

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emission (tons/year)
CO	100	100
NO _x	10	10
ROGs	10	10

³⁵ Air Quality, Greenhouse Gas, and Energy Impact Assessment, Lombardi Development Project. Page 7.1. Prepared by Stantec Consulting Services, Inc. July 23, 2021.

³⁶ Ibid, 7.2.

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emission (tons/year)
SO _x	27	27
PM ₁₀	15	15
PM _{2.5}	15	15

The project does not contain sources that would produce substantial quantities of SO₂ emissions during construction and operation. Modeling conducted for the project show that SO₂ emissions are well below the SJVAPCD GAMAQI thresholds, as shown in the modeling results contained in Appendix A of Appendix B. No further analysis of SO₂ is required.

Impact Analysis

Impact AIR-1: *Conflict with or obstruct implementation of the applicable air quality plan?*

The CEQA Guidelines indicate that a significant impact would occur if the Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI does not provide specific guidance on analyzing conformity with the Air Quality Plan (AQP). Therefore, this document proposes the following criteria for determining project consistency with the current AQP's:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emissions reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District or Regional and Local Air Pollutants.
2. Will the project conform to the assumptions in the AQPs?
3. Will the project comply with applicable control measures in the AQPs?

The use of criteria listed above is a standard approach for CEQA analysis of projects in the SJVAPCD's jurisdictions, as well as within other air districts, for the following reasons:

- Significant contribution to existing or new exceedances of the air quality standards would be inconsistent with the goal of attaining the air quality standards.

- Air Quality Plan (AQP) emissions inventories and attainment modeling are based on growth assumptions for the area within the SJVAPCD's jurisdiction.
- AQPs rely on a set or air district-initiated control measures as well as implementation of federal and state measures to reduce emissions within their jurisdictions, with the goal of attaining the air quality standards.

AQPs are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the SJVAB can reach attainment for the ambient air quality standards. To show attainment of the standards, the SJVAPCD analyzes the growth projections in the valley, contributing factors in air pollutant emissions and formations, and existing and adopted emissions controls. The SJVAPCD then formulates a control strategy to reach attainment that includes both State and SJVAPCD regulations and other local programs and measures. The applicable AQPs include the 2016 8-Hour Ozone Plan which contains measures to achieve reductions in emissions of ozone precursors and sets plans towards attainment of ambient ozone standards by 2031 and the 2018, 2016, 2015, 2012, and 2008 PM_{2.5} Plans to address multiple PM_{2.5} air quality standards and attainment deadlines.

Contribution to Air Quality Violations

A measure of determining if the Project is consistent with the air quality plans is if the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Because of the region's nonattainment status for ozone, PM_{2.5}, and PM₁₀, if Project-generated emissions of either of the ozone precursor pollutants (ROG and NO_x), PM₁₀, or PM_{2.5} would exceed the SJVAPCD's significance thresholds, then the Project would be considered to conflict with the attainment plans.

As shown in Impact AIR-2, emissions of ROG, NO_x, PM₁₀, and PM_{2.5} from construction and operation of the Project would not exceed the SJVAPCD's significance thresholds. As shown in Impact AIR-3, the Project would not expose sensitive receptors to a substantial pollutant concentration. Therefore, the Project would not contribute to air quality violations.

Consistency with Assumptions in AQPs

The primary way of determining consistency with the AQP's assumptions is determining consistency with the applicable General Plan to ensure that the project's population density and land use are consistent with the growth assumptions used in the AQPs for the SJVAB.

As required by California law, city and county General Plan contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth and designates locations for land uses to regulate growth. The Tulare Council of Governments (Tulare COG) uses the growth projections and land use information in adopted general plans, among other sources to estimate future average daily trips and then vehicles miles traveled (VMT), which are then provided to the SJVAPCD to estimate future emissions in the AQPs. Existing and future pollutant emissions computed in the AQPs are based on land uses from area general plans. AQPs detail the control measures and emission reductions required for reaching attainment of the air standards based on these growth and emission estimates.

The applicable General Plan for the project is the City of Porterville 2030 General Plan, which was adopted in 2008, prior to the SJVAPCD's adoption of the applicable AQPs. The Land Use General Plan designated the site as Low Density Residential. Therefore, the Project would be consistent with the modeling used to prepare the AQPs. The impact would be less than significant.

Control Measures

The AQP contains several control measures, which are enforceable requirements through the adoption of rules and regulations. A detailed description of rules and regulations that apply to this Project is provided in the Regulatory Setting. The Project would comply with all applicable SJVAPCD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality plan.

The Project would not conflict with or obstruct implementation of the applicable AQPs. Thus, any impacts to air resources would be considered *less than significant*.

Mitigation Measures: None are required.

Impact AIR-2: *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?*

To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD in its GAMAQI.

2. Summary of projections: the project must be consistent with current air AQPs including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.
3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20.

Step 1: Regional Analysis

Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the Project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from Project construction and operation are also assessed using concentration-based thresholds that determine if the Project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during Project construction and operation are ROG, NO_x, PM₁₀, and PM_{2.5}. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for ROG and NO_x; SOX, CO, PM₁₀, and PM_{2.5}.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO_x emissions in the presence of sunlight. Therefore, ROG and NO_x are termed ozone precursors. The SJVAB often exceeds the state and national ozone standards. Therefore, if the Project emits a substantial quantity of ozone precursors, the Project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM₁₀, and PM_{2.5}; therefore, substantial Project emissions may contribute to an exceedance for these pollutants. The SJVAPCD's annual emission significance thresholds used for the Project define substantial contribution both operational and construction emissions are provided in Table 4.

Construction Emissions

Construction emissions associated with the Project are shown in 5. For assumptions in estimating the emissions, please refer to Modeling Parameters and Assumptions. As shown in Table 5, the

emissions are below the significance thresholds and, therefore, are less than significant on a Project basis.

Table 5: Construction Emissions – Unmitigated³⁷

Emissions Source	Emissions (Tons/Year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Phase One						
2021						
Site Preparation	0.02	0.20	0.11	<0.01	0.11	0.06
Grading	0.05	0.58	0.39	<0.01	0.14	0.07
Building Construction (2021)	0.05	0.36	0.39	<0.01	0.05	0.02
<i>2021 Subtotal</i>	<i>0.12</i>	<i>1.15</i>	<i>0.89</i>	<i><0.01</i>	<i>0.30</i>	<i>0.15</i>
2022						
Building Construction (2022)	0.23	1.74	2.03	<0.01	0.26	0.12
Paving	0.02	0.07	0.09	<0.01	0.00	0.00
Architectural Coating	2.25	0.01	0.02	<0.01	0.00	0.00
<i>2022 Subtotal</i>	<i>2.49</i>	<i>1.82</i>	<i>2.14</i>	<i><0.01</i>	<i>0.27</i>	<i>0.12</i>
Phase Two						
2023						
Site Preparation	0.01	0.14	0.09	0.00	0.11	0.06
Grading	0.04	0.43	0.36	0.00	0.13	0.02
Building Construction	0.26	1.93	2.45	0.01	0.34	0.14
Paving	0.02	0.06	0.09	<0.01	<0.01	<0.01
Architectural Coating	1.85	0.01	0.02	<0.01	<0.01	<0.01
<i>2023 Subtotal</i>	<i>2.18</i>	<i>2.57</i>	<i>3.01</i>	<i><0.01</i>	<i>0.59</i>	<i>0.27</i>
Total Construction Duration (Phase One and Phase Two)						

³⁷ Ibid, 7.6-7.7.

Maximum in Any Calendar Year	2.49	2.57	3.01	<0.01	0.59	0.27
Significance Thresholds	10	10	100	27	15	15
Any Year Exceed Significance Thresholds?	No	No	No	No	No	No
Notes: Source of Emissions: CalEEMod Output (Attachment A). Source of Thresholds: San Joaquin Valley Air Pollution Control District (Valley Air District), 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF . Accessed July 19, 2021.						

Operations

Operational emissions occur over the lifetime of the project and from two main sources: areas sources and motor vehicles. The SJVAPCS considers construction and operations emissions separately when making significance determination. However, Phase One will likely become operational when Phase Two is under construction. The overlap in emissions between Phase One operation and Phase Two construction are evaluated in Table 6 and demonstrate that emissions during this overlap would be less than the thresholds of significance for all criteria air pollutants.

Table 6: Summary of Overlapping Phase One Operational and Phase Two Construction Criteria Air Pollutants - Unmitigated³⁸

Source	Emissions (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Phase One Operation						
Area	1.18	0.06	0.97	>0.01	0.01	0.01
Energy	0.02	0.14	0.06	>0.01	0.01	0.01
Mobile	0.69	1.23	6.45	0.01	1.27	0.35
Total Phase One Operational	1.89	1.43	7.48	0.01	1.29	0.37
Phase Two Construction						
Total Phase Two Construction (2023)	2.18	2.57	3.01	<0.01	0.59	0.27
Total Overlapping Emissions (Phase One Operation and Phase Two Construction)						

³⁸ Ibid, 7.8.

Source	Emissions (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Total	4.07	4.00	10.49	0.01	1.88	0.64
Significance Thresholds	10	10	100	27	15	15
Exceed Significance Thresholds?	No	No	No	No	No	No
Notes: Emissions were quantified using CalEEMod, version 2020.4.0 based on project details and estimated operating year for the proposed project. Totals may not sum exactly due to rounding. Source: CalEEMod Output (Attachment A).						

The emissions output for project operation at full buildout for 2024 are summarized in Table 6. As shown in Table 7, the operational emissions would be less than the thresholds of significance for all criteria air pollutants. The impact is less than significant.

Table 7: Summary of Operational Emissions of Criteria Air Pollutants – Unmitigated³⁹

Source	Emissions (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Phase One Operation						
Area	1.18	0.06	0.97	>0.01	0.01	0.01
Energy	0.02	0.14	0.06	>0.01	0.01	0.01
Mobile	0.69	1.23	6.45	0.01	1.27	0.35
<i>Subtotal Phase One Operational</i>	<i>1.89</i>	<i>1.43</i>	<i>7.48</i>	<i>0.01</i>	<i>1.29</i>	<i>0.37</i>
Phase Two Operation						
Area	0.98	0.05	0.80	>0.01	0.01	0.01
Energy	0.01	0.12	0.05	>0.01	0.01	0.01
Mobile	0.50	0.83	4.64	0.01	1.04	0.29
<i>Subtotal Phase Two Operational</i>	<i>1.49</i>	<i>0.99</i>	<i>5.49</i>	<i>0.01</i>	<i>1.06</i>	<i>0.30</i>
2024 Full Buildout Total	3.38	2.42	12.97	0.02	2.35	0.67
Significance Thresholds	10	10	100	27	15	15
Exceed Significance Thresholds?	No	No	No	No	No	No

³⁹ Ibid, 7.8-7.9.

Notes:

Emissions were quantified using CalEEMod, version 2020.4.0 based on project details and estimated operating year for the proposed project. Totals may not sum exactly due to rounding.

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

The SJVAB is in nonattainment for PM₁₀, PM_{2.5}, and ozone. Therefore, if the Project exceeds the regional thresholds for PM₁₀, or PM_{2.5}, then it contributes to a cumulatively considerable impact for those pollutants. If the Project exceeds the regional threshold for NO_x or ROG, then it follows that the Project would contribute to a cumulatively considerable impact for ozone.

The criteria pollutant emissions analysis, as shown in above, assessed whether the Project would exceed the SJVAPCD's thresholds of significance. As shown in 6 and 7, criteria pollutant emissions would not exceed any threshold of significance during Project construction or operation. Therefore, the combination of unmitigated Project emissions with the criteria pollutants from other sources within the SJVAB would not cumulatively contribute to a significant impact according to this criterion.

Step 2: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The SJVAB is in nonattainment for ozone and particulate matter (PM₁₀ and PM_{2.5}), which means that concentrations of these pollutants currently exceed the applicable ambient air quality standards.

Cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The geographic scope for cumulative criteria pollution from air quality impacts is the SJVAB, because that is the area in which the air pollutants generated by the sources within the SJVAB circulate and are often trapped. The SJVAPCD is required to prepare and maintain air quality attainment plans and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have direct authority over land use decisions, it is recognized that changes in land use and circulation planning would help the SJVAB achieve clean air mandates. The SJVAPCD evaluated emissions from land uses and transportation in the entire SJVAB when it developed its attainment plans.

In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the Project complies with the requirements in a previously approved plan or mitigation program.

As discussed in Impact AIR-1, the project is consistent with all applicable control measures in the air quality attainment plans. The Project would be required to comply with any SJVAPCD rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with control measures and regulations.

Step 3: Cumulative Health Impacts

The SJVAB is in nonattainment for ozone, PM₁₀, and PM_{2.5}, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and the infirm). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects.

Adverse health effects induced by ozone includes short-term effects such as coughing, difficulty breathing, and sore throat as well as long-term effects including inflamed or damaged airways, aggravated lung diseases like asthma or bronchitis, and increased frequency of asthma attacks. O₃ is created through chemical reactions between NO_x, VOCs, and oxygen (EPA, 2021c). Therefore, the health effects related to O₃ are the product of emissions generated by numerous sources throughout the region.

Exposure to particulate matter (PM₁₀ and PM_{2.5}) can affect the lungs and heart and may cause irregular heartbeat, aggravated asthma, and decreased lung function (EPA, 2021b). Direct sources of particulate matter include construction sites, unpaved roads, fields, and fires. Particulate matter is also formed indirectly as a result of complex reactions of chemicals such as SO_x and NO_x (EPA, 2021b).

The SJVAPCD has acknowledged that while HRAs for localized air toxic impacts are commonly prepared, the currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's criteria air pollutant emissions and specific human health impacts (SJVAPCD, 2015b). The South Coast Air Quality Management District (SCAQMD) states that based on their own modeling in the SCAQMD's 2012 *Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_x and a reduction of 187 tons (374,000 pounds) per day of VOC would reduce O₃ levels at the highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O₃-related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations (SCAQMD, 2015).

The regional analysis of construction and operational emissions, as shown above indicates that the Project would not exceed the SJVAPCD's significance thresholds, and the Project is consistent with the applicable AQPs. Therefore, the Project's emissions would not have a measurable effect on human health and would not result in significant cumulative health impacts from nonattainment pollutants and impacts would be less than significant.

The proposed Project would not 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. Thus, any impacts are considered *less than significant*.

Mitigation Measures: None are required.

Impact AIR-3: *Expose sensitive receptors to substantial pollutant concentrations?*

This discussion addresses whether the proposed Project would expose sensitive receptors to Naturally Occurring Asbestos (NOA), construction-generated fugitive dust (PM₁₀), ROG, NO_x, PM_{2.5}, Valley Fever, construction generated DPM and operational health risks from the proposed service station. A sensitive receptor is a person in a population who is particularly susceptible to

health effects due to exposure to an air contaminant. The following are land uses (sensitive sites) where sensitive receptors are typically located:

- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences
- Schools, playgrounds and childcare centers

The proposed Project is considered a sensitive receptor once operational, however there are not any nearby sources of TAC near the site and impact to these receptors was not evaluated. The nearest off-site sensitive receptors are the residents adjacent to the project site.

Localized Impacts

Emissions occurring at or near the Project have the potential to create a localized impact also referred to as an air pollutant hotspot. Localized emissions are considered significant if when combined with background emissions, they would result in exceedance of any health-based air quality standard. In locations that already exceed standards for these pollutants, significance is based on a significant impact level (SIL) that represents the amount that is considered a cumulatively considerable contribution to an existing violation of an air quality standard. The pollutants of concern for localized impact in the SJVAB are NO₂ and CO.

The SJVAPCD has provided guidance for screening localized impacts in the GAMAQI that establishes a screening threshold of 100 pounds per day of any criteria pollutant. If a project exceeds 100 pounds per day of any criteria pollutant, then ambient air quality modeling would be necessary. If the Project does not exceed 100 pounds per day of any criteria pollutant, then it can be assumed that it would not cause a violation of an ambient air quality standard.

Construction: Localized Concentrations of PM₁₀, PM_{2.5}, CO, and NO₂

Local construction impacts would be short-term in nature lasting only during the duration of construction. Because of the short duration and limited amount of construction anticipated for the Project, application of best management practices through compliance with Regulation VIII Fugitive Dust Prohibitions to minimize construction emissions, and levels of emissions less than the SJVAPCD's emission significance thresholds, localized construction concentrations are

considered less than significant. It should also be noted that the on-site construction emissions would be less than 100 pounds per day for each of the criteria pollutants, as shown in Table 8 below. To present a conservative estimate, on-site emissions for on-road construction vehicles were included in the localized analysis. It should be noted that the estimates below do not include reductions associated with Rule 9510 compliance, which would reduce NO_x and PM₁₀ emissions. Based on the SJVAPCD's guidance the construction emissions would not cause an ambient air quality standard violation. Impacts would be less than significant.

Table 8: Localized Concentrations of PM₁₀, PM_{2.5}, CO, and NO_x for Construction⁴⁰

Emissions Source	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Phase One				
2021				
Site Preparation	40.50	21.15	21.70	11.98
Grading	46.40	30.88	11.19	5.48
Building Construction (2021)	17.43	16.58	0.96	0.90
2021 Maximum	46.40	30.88	21.70	11.98
2022				
Building Construction (2022)	15.61	16.36	0.81	0.76
Paving	11.12	14.58	0.57	0.52
Architectural Coating	1.41	1.81	0.08	0.08
2022 Maximum	15.61	16.36	0.81	0.76
Phase Two				
2023				
Site Preparation	27.52	18.24	20.92	11.27
Grading	34.52	28.05	10.63	4.96
Building Construction	14.38	16.24	0.70	0.66
Paving	10.19	14.58	0.51	0.50
Architectural Coating	1.30	1.81	0.07	0.07
2023 Maximum	34.52	28.05	20.92	11.27
Total Construction Duration (Phase One and Phase Two)				
Maximum in Any Calendar Year	46.40	30.88	21.70	11.98

⁴⁰ Ibid, 7.14.

Emissions Source	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Significance Thresholds	100	100	100	100
Any Year Exceed Significance Thresholds?	No	No	No	No
Notes: PM ₁₀ and PM _{2.5} emissions are from the unmitigated output and as a result are more conservative as they do not reflect compliance with Regulation VIII—Fugitive PM ₁₀ Prohibitions. The table only accounts for on-site construction emissions. Source of Emissions: CalEEMod Output (Attachment A). Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF . Accessed April 16, 2021.				

Operation: Localized Concentrations of PM₁₀, PM_{2.5}, CO, and NO₂

Localized impacts could occur in areas with a single large source of emissions such as a power plant or with multiple sources concentrated in a small area such as a distribution center. Since the proposed project is proposing the develop 230 single family homes and a park on the project site localized levels of PM₁₀, PM_{2.5}, CO, and NO₂ are not expected to exceed localized impacts.

Construction

ROG

During paving operations, ROG is emitted. The amount emitted is dependent on the amount of ROG (or VOC) in the paving materials. There are three types of asphalt that are typically used in paving: asphalt cements, cutback asphalts, and emulsified asphalts. However, SJVAPCD Rule 4641 prohibits the use of the following types of asphalt: rapid cure cutback asphalt; medium cure cutback asphalt; slow cure asphalt that contains more than one-half (0.5) percent of organic compounds that evaporate at 500 degrees Fahrenheit (°F) or lower; and emulsified asphalt containing organic compounds, in excess of 3 percent by volume, that evaporate at 500°F or lower. An exception to this is medium cure asphalt when the National Weather Service official forecast of the high temperature for the 24-hour period following application is below 50°F.

The acute (short-term) health effects from worker direct exposure to asphalt fumes include irritation of the eyes, nose, and throat. Other effects include respiratory tract symptoms and pulmonary function changes. The studies were based on occupational exposure of fumes. Sensitive receptors are not in the immediate vicinity of the fumes; therefore, they would not be subjected to concentrations high enough to evoke a negative response. In addition, the restrictions

that are placed on asphalt in the San Joaquin Valley reduce ROG emissions from asphalt and exposure. The impact to sensitive receptors from ROG during construction is less than significant.

Naturally-Occurring Asbestos

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011), there are no such areas in the Project area. Therefore, development of the project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

Fugitive Dust (PM₁₀)

PM₁₀ emissions would not exceed the thresholds of significance, nevertheless, the potential for localized PM₁₀ health impacts are a concern, however, the Project would comply with the SJVAPCD's Regulation VIII incorporating Best Management Practices for reducing fugitive dust, thus potential impacts are reduced to a less than significant level.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities. The San Joaquin Valley is considered an endemic area for Valley fever.

Construction activities would generate fugitive dust that could contain *C. immitis* spores. The Project will minimize the generation of fugitive dust during construction activities by complying with the SJVAPCD's Regulation VIII. Therefore, this regulation would reduce Valley fever impacts to *less than significant*.

During operations, dust emissions are anticipated to be negligible, because most of the Project area would be occupied by buildings, pavement, and landscaped areas. This condition would preclude the possibility of the Project from generating fugitive dust that may contribute to Valley fever exposure. Impacts would be *less than significant*.

Health Risk Assessment

Construction

Construction activities have the potential to generate Diesel Particulate Matter (DPM) emissions related to the number and types of equipment typically associated with construction. Off-road, heavy-duty diesel equipment used for site grading, paving, and other construction activities result in the generation of DPM. For construction activity, DPM is the primary air toxic of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a toxic air contaminant (TAC) by the California Air Resources Board (CARB) in 1998. Because of the proximity of sensitive receptors there is the potential for the DPM emissions to result in a health impact. Accordingly, an analysis was prepared to determine if a potential health risk would occur.

A construction HRA was prepared in accordance with SJVAPCD and OEHHA guidance for the proposed project and is included as Appendix B. To assess the project's total health risk impacts, impacts from both construction and operations were considered in this HRA; therefore, the construction HRA is summarized below.

The construction HRA evaluated DPM (represented as exhaust $PM_{2.5}$) emissions generated during construction of the proposed project and the related health risk impacts for sensitive receptors located within 1,000 feet of the project boundary. A project would result in a significant impact if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 20 in one million or an increased non-cancer risk of greater than 1.0 on the hazard index. It should be noted that the SJVAPCD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in one million (formerly 10 in one million).

The project site is located within 1,000 feet from existing sensitive receptors that could be exposed to diesel emission exhaust during the construction and operational periods. The nearest sensitive receptors are residents occupying the single-family houses adjacent to the project site to the north and east. Furthermore, there are existing residences surrounding the project site on all sides (to the north, east, south, and west). There is an existing commercial center west of the southern half of the project site. To estimate the potential cancer risk associated with construction of the proposed project from equipment exhaust (including DPM), a dispersion model was used to translate an emission rate from the source location to concentrations at the receptor locations of interest (i.e., receptors at nearby residences).

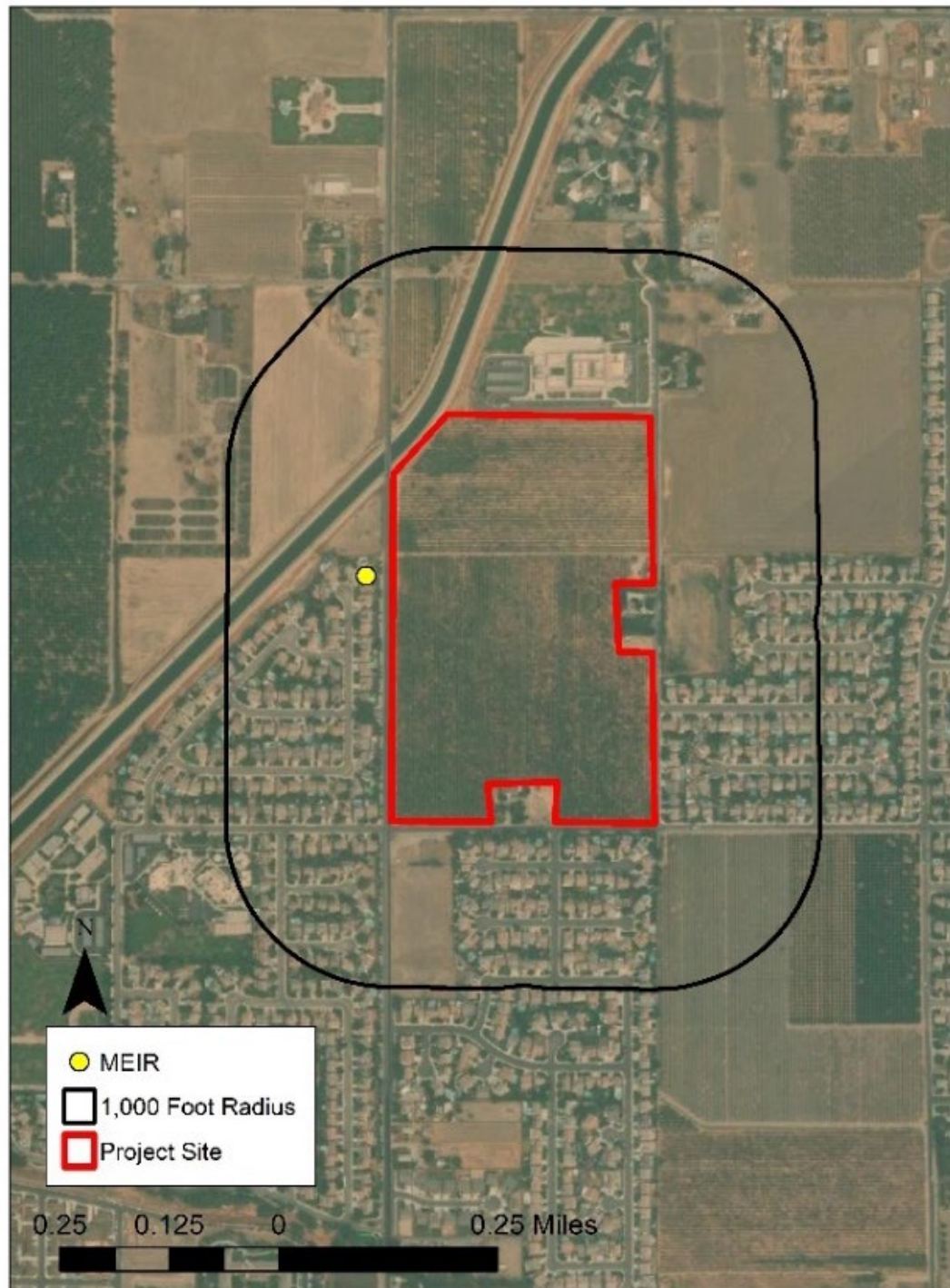
The location of the maximally exposure individual receptor (MEIR) is located on Westwood Boulevard, immediately west of the project site. As discussed above, AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ at sensitive receptors within 1,000 feet of

the project site, as recommended by the SJVAPCD. To model emissions, a release height of 3 meters was chosen to represent the release height of construction equipment. Emissions from off-road construction equipment and on-road vehicle travel were distributed throughout the modeled area source.

The current OEHHA guidance recommends that cancer risks be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, it recommends evaluating the risks for the third trimester of pregnancy to age zero (third trimester exposure), ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposure, an ASF of 3 for child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilograms of body weight per day (L/kg-day). As recommended, 95th percentile breathing rates are used for the third trimester and infant exposure, and 80th percentile breathing rates are used for child and adult exposure. These age-specific breathing rates are 361 L/kg-day for the third trimester receptor, 1,090 L/kg-day for the infant receptors, 572 L/kg-day for child receptors, and 233 L/kg-day for adult receptors (OEHHA 2015). According to OEHHA, the cancer risk for a residential receptor is assumed to start in the third trimester of life.

Results of the construction health risk analysis for the unmitigated emissions are summarized in Table 9. The complete construction HRA prepared for the proposed project, including calculations and AERMOD output data used in the assessment are included in Appendix B.

Figure 1 – Project Site with a 1,000 Foot Buffer⁴¹



⁴¹ Ibid, 7.17.

Table 9: Health Risks from Project Construction at the Maximally Exposed Sensitive Receptor (Unmitigated)⁴²

Health Impact Metric	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index
Risks and Hazards at the maximally exposed sensitive receptor¹		
Risks and Hazards: Infant	25.6	0.016
Risks and Hazards: Child	4.03	0.016
Risks and Hazards: Adult	0.61	0.016
Threshold	20	1
Exceeds Threshold?	Yes	No
Notes:		
¹ The maximally exposed sensitive receptor is located at an existing residence located approximately 100 feet west of the project site.		
² Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as PM _{2.5} exhaust) by the REL of 5 µg/m ³ .		
Source: Appendix B.		

As shown in Table 9, mitigation would be required to reduce potential impacts from project construction. Mitigation Measure AIR-1 requires the applicant provide documentation to the City of Porterville demonstrating that all off-road diesel-powered construction equipment greater than 50 horsepower meets EPA or ARB Tier 4 off-road emissions standards. Equipment tiers refer to a generation of emission standards established by the EPA and ARB that apply to diesel engines in off-road equipment. Since Tier 1 emission standards were established by the EPA in 1994, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by the EPA, as well as CARB. Results of the construction health risk analysis after the incorporation of Mitigation Measure AIR-1 are summarized in Table 10.

Table 10: Health Risks from Project Construction at the Maximally Exposed Sensitive Receptor (Mitigated)⁴³

Health Impact Metric	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index
Risks and Hazards at the maximally exposed sensitive receptor¹		
Risks and Hazards: Infant	3.63	0.002
Risks and Hazards: Child	0.57	0.002
Risks and Hazards: Adult	0.08	0.002
Threshold	20	1
Exceeds Threshold?	No	No

⁴² Ibid, 7.19.⁴³ Ibid.

Health Impact Metric	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index
Notes: ¹ The maximally exposed sensitive receptor is located at an existing residence located approximately 100 feet west of the project site. ² Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as PM _{2.5} exhaust) by the REL of 5 µg/m ³ .		

Operations

The greatest potential during long-term operations for exposure to TACs is from the use of heavy-duty diesel trucks and stationary generators that use diesel fuel. The proposed project is a 230-unit residential development with park uses. Once operational, the majority of vehicle trips to the project site will be from residents and, as a result, the proposed project would attract very few diesel truck trips. Additionally, the project does not propose any stationary generators on-site. For these reasons, once operational, the proposed project would not be expected to expose nearby sensitive receptors to substantial amounts of air toxics and the project would have a less than significant impact.

Sensitive receptors would not be exposed to substantial pollutant concentrations. Thus, any impact is considered *less than significant with mitigation incorporation*.

Mitigation Measures:⁴⁴

AIR-1: Clean Construction Fleet. The Project Applicant and/or their respective contractors shall submit documentation to the City of Porterville demonstrating that all off-road diesel-powered construction equipment greater than 50 horsepower meets EPA or ARB Tier 5 off-road emission standards.

Impact AIR-4: *Result in other emissions (such as those leading to odors) affecting a substantial number of people?*

While offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local

⁴⁴ Ibid, 7.20.

governments and the SJVAPCD. The occurrence and severity of odor impacts depends on numerous factors, including nature, frequency, and intensity of the source, the wind speed and direction, and the sensitivity of the receptor. The nearest sensitive receptor in the vicinity of the proposed Project site would be the students and faculty at West Hills College, approximately 912 feet south of the Project site, the nearest residential receptor would be the single-family residence located 2,700 feet east of the Project site.

Construction activities associated with the proposed Project could result in short-term odorous emissions from diesel exhaust associated with construction equipment. However, these emissions would be intermittent and would dissipate rapidly from the source. In addition, this diesel-powered equipment would only be present on site temporarily during construction activities. Therefore, construction would not create objectionable odors affecting a substantial number of people, and the impact would be less than significant.

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The proposed Project does not contain land uses typically associated with emitting objectionable odors and is not located within the screening distances to sources of odors recommended by the SJVAPCD. Therefore, the impact would be less than significant.

The proposed Project would not create objectionable odors affecting a substantial number of people. Thus, any impact would be considered *less than significant*.

Mitigation Measures: None are required.

Cumulative Impacts

The scope for considering cumulative impacts to air quality resources is the San Joaquin Valley Air Basin. Cumulative Criteria Pollutant Impacts are discussed in Impact AIR-2 and within that analysis, cumulative impacts were demonstrated to be less than significant with mitigation incorporation. As such, cumulative impacts, are considered to be *less than significant with mitigation incorporation*.

3.2 Biological Resources

Environmental Setting

The proposed Project site is located in a portion of the central San Joaquin Valley that has, for decades, experienced intensive agricultural and urban disturbances. Current agricultural endeavors in the region include orange groves, olive orchards and row crops.

Like most of California, the Central San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures usually exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely raise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the proposed Project site is about 10 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain and storm-water readily infiltrates the soils of the surrounding the sites.

Native plant and animal species once abundant in the region have become locally extirpated or have experienced large reductions in their populations due to conversion of upland, riparian, and aquatic habitats to agricultural and urban uses. Remaining native habitats are particularly valuable to native wildlife species including special status species that still persist in the region.

The site currently consists of land primarily utilized for agricultural activities, with a single-family residence located on the southern boundary and another residence on the eastern boundary property. Summit Charter Academy, Lombardi Campus lies to the north of the site, with a portion of the Friant-Kern Canal running diagonally along the northwest corner. The site is bounded to the east by N. Lombardi Street, with residential development, vacant land and agriculture beyond the roadway. The site is bounded to the south by W. Westfield Avenue, with residential development and vacant land beyond the roadway. The site is bounded by N. Westwood Street to the west, with residential development beyond the roadway in that direction. No aquatic or wetland features occur on the proposed Project site, therefore jurisdictional waters are considered absent from the site.

Regulatory Setting

Federal

Endangered Species Act

The USFWS and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species

Act of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. “Take” is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an “active nest.” However, the “Migratory Bird Permit Memorandum” issued by the USFWS in 2003 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction.

U.S. Army Corps of Engineers Jurisdiction

Areas meeting the regulatory definition of “waters of the United States” (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3).

Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement.^{45,46} Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

State

California Endangered Species Act

The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq. and California Code of Regulations (CCR) Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the California Department of Fish and Wildlife when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies “reasonable and prudent alternatives” for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as “watch lists.” Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a

⁴⁵ United States Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Wetland Research Program Technical Report Y-87-1.

⁴⁶ United States Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ERDC/EL TR-08-28. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf. Accessed September 2021.

potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds

California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are “Fully Protected” as those that may not be taken or possessed except under specific permit.

California Department of Fish and Wildlife Jurisdiction

The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and

ranks species according to rarity.⁴⁷ Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

Local

Porterville General Plan Policies

- OSC-G-7: Protect habitat for special status species, designated under State and federal law.

Thresholds of Significance

In accordance with the CEQA Guidelines, a project impact would be considered significant if the project would:

- **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.**

⁴⁷ California Native Plant Society, Rare Plant Program (CNPS). 2019. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). California Native Plant Society, Sacramento, CA. <http://www.rareplants.cnps.org/> Accessed September 2021.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Note the bolded significant thresholds are discussed below. While all thresholds regarding biological resources had been analyzed in the Initial Study and had been determined to have no significant impact, the California Department of Fish and Wildlife (CDFW) commented on the Notice of Preparation/Initial Study⁴⁸ and requested further evaluation of three special-status species, which is discussed below. All other thresholds have been analyzed in the Initial Study (see Appendix A) and have been determined to have no significant impact, thus the analysis of those impact areas is not repeated here.

Impact Analysis

Impact Bio- 1: *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?*

The Project site is currently being utilized for agricultural activities. Specifically, the parcel is planted in orchards. The site is highly disturbed. The only vegetation aside from the orchard trees are grasses and weedy vegetation growing between the rows.

⁴⁸ Department of Fish and Wildlife NOP Comment letter dated August 23, 2021. See Appendix A.

According to the Porterville General Plan, several special status plant species are potentially found within the Porterville Planning Area. These species include Keck's checkerbloom (*Sidalcea keckii*), Springville clarkia (*Clarkia springvillensis*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), Striped adobe-lily (*Fritillaria striata*), Madera leptosiphon (*Leptosiphon serrulatus*), Calico monkeyflower (*Mimulus pictus*), and Spiny-sepaled button celery (*Eryngium spinosepalum*). Additionally, the Valley elderberry longhorn beetle, which is a special status species, is supported by elderberry shrubs which are known to grown in several areas throughout the Planning Area.

The Planning area also contains potential habitat for many special status species of animals. These species include California condor (*Gymnogyps californianus*), San Joaquin kit fox (*Vulpes macrotis mutica*), the previously mentioned Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Vernal pool fairy shrimp (*Branchinecta lynchi*), American badger (*Taxidea taxus*), Pallid bat (*Antrozous pallidus*), Western mastiff bat (*Eumops perotis californicus*), Great Blue Heron (*Ardea herodias*), Western pond turtle (*Emys marmorata*), Tricolored blackbird (*Agelaius tricolor*), Morrison's blister beetle (*Lytta morrisoni*), and Molestan blister beetle (*Lytta molesta*).

The Project area is within the geographic range of the State threatened Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*) and the Species of Special Concern burrowing owl (*Athene cunicularia*) and as such, further discussion is included below.

Swainson's hawk (SWHA)

According to CDFW⁴⁹, SWHA have been documented in the Project vicinity and have the potential to occur in the Project area. Landscape trees in the Project vicinity may provide suitable nesting habitat and grassland and agricultural land in the surrounding area provide suitable foraging habitat for SWHA, increasing the likelihood of SWHA occurrence in the vicinity. Also according to CDFW, Project approval may lead to ground-disturbing activities that involve noise, groundwork, construction of structures, and movement of workers that could affect nests and have the potential to result in nest abandonment and loss of foraging habitat. As such, Project development could result in significant impacts to SWHA. Implementation of Mitigation measures **BIO-1 through BIO-4** would reduce potential impacts to less and significant.

Tricolored Blackbird (TRBL)

⁴⁹ Department of Fish and Wildlife NOP Comment letter dated August 23, 2021. See Appendix A.

TRBL have been steadily declining due to annual breeding losses due to crop-harvesting activities, insufficient insect resources, and habitat loss due to land conversion for agriculture, rangeland, and urban development. TRBL aggregate and nest colonially, forming colonies of up to 100,000 nests and these colonies require suitable nesting habitat, nearby freshwater, and nearby foraging habitat, including grasslands, low-growing agricultural croplands, or alkali scrub habitat. The Project site has the potential to contain elements that may support TRBL nesting colonies and therefore, Project implementation could negatively impact TRBL. Mitigation measures **BIO-5 through BIO-7** are included to reduce potential impacts to less than significant.

Burrowing Owl (BUOW)

BUOW rely on burrow habitat year-round for their survival and reproduction. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley.⁵⁰ The Project site is bordered by some of the only remaining habitat in the vicinity, which is otherwise urban or intensively managed for agriculture. As such, BUOW may occur within and/or adjacent to the Project site if suitable small mammal burrows are present. Should construction activities occur while BUOW are present, significant impacts would occur. Implementation of Mitigation measures **BIO-8 through BIO-10** are included to reduce potential impacts to less than significant.

Mitigation Measures:

BIO-1

A qualified wildlife biologist shall conduct surveys for nesting SWHA following the entire survey methodology developed by the SWHA Technical Advisory Committee prior to Project implementation within 0.5-miles from the limits of Project-associated disturbance.

BIO-2

If Project-specific activities take place during the SWHA nesting season (March 1 through September 15), and active SWHA nests are present, a minimum 0.5-mile no-disturbance buffer should be delineated and maintained around each nest, regardless if when it was detected by surveys or incidentally, until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, to prevent nest abandonment and unauthorized take of SWHA as a result of Project activities.

⁵⁰ Department of Fish and Wildlife NOP Comment letter dated August 23, 2021. See Appendix A.

BIO-3

In the event an active SWHA nest is detected, and a 0.5-mile no-disturbance buffer is not feasible, consultation with CDFW shall occur to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the acquisition of an Incidental Take Permit (ITP), pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA.

BIO-4

The removal of known SWHA nest trees, even outside of the nesting season shall be replaced with an appropriate native tree species planting at a ratio of 3:1 at or near the Project area or in another area that will be protected in perpetuity.

BIO-5

Project activities should be timed to avoid the normal bird breeding season (February 1 through September 15). However, if Project activities must take place during that time, a qualified wildlife biologist shall conduct surveys for nesting TRBL no more than 10 days prior to the start of implementation to evaluate presence/absence of TRBL nesting colonies in proximity to Project activities and to evaluate potential Project-related impacts.

BIO-6

If an active TRBL nesting colony is found during preconstruction surveys, a minimum 300-foot no-disturbance buffer in accordance with CDFW's "Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agriculture Fields in 2015" shall be implemented. This buffer shall remain in place until the breeding season has ended or until a qualified biologist has determined that nesting has ceased, the birds have fledged, and are no longer reliant upon the colony or parental care for survival. It is important to note that TRBL colonies can expand over time and for this reason, the colony shall be reassessed to determine the extent of the breeding colony within 10 days for Project initiation.

BIO-7

If a TRBL nesting colony is detected during surveys, consultation with CDFW shall occur to discuss how to implement the Project and avoid take, or if avoidance is not

feasible, to acquire an ITP, pursuant to Fish and Game Code section 2081 subdivision(b), prior to any ground-disturbing activities.

BIO-8

If small mammal burrows are present within the Project site, a qualified biologist shall conduct surveys to assess presence/absence following the California Burrowing Owl Consortium's *"Burrowing Owl Survey Protocol and Mitigation Guidelines"* and CDFW's *Staff Report on Burrowing Owl Mitigation*" (CDFG 2012). Specifically, if suitable habitat is present at an individual Project site, three or more surveillance surveys shall be conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable.

BIO-9

No-disturbance buffers, as outlined in the *"Staff Report on Burrowing Owl Mitigation"* (CDFG 2012), shall be implemented prior to and during any ground-disturbing activities. Specifically, impacts to occupied burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

BIO-10

If BUOW are found within these recommended buffers and avoidance is not possible, burrow exclusion shall be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Replacement of occupied burrows shall happen with artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that

will be impacted; thus, ongoing surveillance shall occur, at a rate that is sufficient to detect BUOW if they return and determined by a qualified biologists.

Cumulative Impacts

The geographic area for considering cumulative impacts to biological resources is the central portion of the San Joaquin Valley. Development in the City of Porterville, Tulare County and the San Joaquin Valley has resulted in a decline of many plant and animal species; however, implementation of BIO-1 through BIO-10 would ensure that impacts remain less than significant to biological resources. Impacts are *less than cumulatively considerable*.

3.3 Greenhouse Gas Emissions

Environmental Setting⁵¹

To fully understand global climate change, it is important to recognize the naturally occurring “greenhouse effect” and to define the GHGs that contribute to this phenomenon. Various gases in the earth’s atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth’s surface temperature. Solar radiation enters the earth’s atmosphere from space and a portion of the radiation is absorbed by the earth’s surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

*Local*⁵²

Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Primary GHGs attributed to global climate change, are discussed in the following subsections.

Carbon Dioxide

Carbon dioxide (CO₂) is a colorless, odorless gas. CO₂ is emitted in a number of ways, both naturally and through human activities. The largest source of CO₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO₂ emissions. The atmospheric lifetime of CO₂ is variable because it is so readily exchanged in the atmosphere (EPA 2019b).

Methane

CH₄ is a colorless, odorless gas that is not flammable under most circumstances. CH₄ is the major component of natural gas, about 87% by volume. It is also formed and released to the atmosphere

⁵¹ Air Quality, Greenhouse Gas, and Energy Impact Assessment, Lombardi Development Project. Page 4.1. Prepared by Stantec Consulting Services, Inc. July 23, 2021. Appendix B.

⁵² Ibid, 4.1-4.3.

by biological processes occurring in anaerobic environments. CH₄ is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH₄ is about 12 years (EPA 2019b).

Nitrous Oxide

N₂O is a clear, colorless gas with a slightly sweet odor. N₂O is produced by both natural and human-related sources. Primary human-related sources of N₂O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N₂O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N₂O is approximately 120 years (EPA 2017b).

Hydrofluorocarbons

HFCs are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 260 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years) (EPA 2017b).

Perfluorocarbons

PFCs are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF₄), perfluoroethane (C₂F₆), perfluoropropane (C₃F₈), perfluorobutane (C₄F₁₀), perfluorocyclobutane (C₄F₈), perfluoropentane (C₅F₁₂), and perfluorohexane (C₆F₁₄). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum production, which releases CF₄ and C₂F₆ as byproducts. The estimated atmospheric lifetimes for CF₄ and C₂F₆ are 50,000 and 10,000 years, respectively (EPA 2017b).

Nitrogen Trifluoride

Nitrogen trifluoride (NF₃) is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. NF₃ is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin film solar cells. In 2009, NF₃ was listed by California as a potential GHG to be listed and regulated under AB 32 (Section 38505 Health and Safety Code).

Sulfur Hexafluoride

SF₆ is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF₆ is primarily used as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80% of all SF₆ produced worldwide. Leaks of SF₆ occur from aging equipment and during equipment maintenance and servicing. SF₆ has an atmospheric life of 3,200 years (EPA 2017b).

Black Carbon

Black carbon is the most strongly light-absorbing component of PM emitted from burning fuels such as coal, diesel, and biomass. Black carbon contributes to climate change both directly by absorbing sunlight and indirectly by depositing on snow and by interacting with clouds and affecting cloud formation. Black carbon is considered a short-lived species, which can vary spatially and, consequently, it is very difficult to quantify associated global-warming potentials. The main sources of black carbon in California are wildfires, off-road vehicles (locomotives, marine vessels, tractors, excavators, dozers, etc.), on-road vehicles (cars, trucks, and buses), fireplaces, agricultural waste burning, and prescribed burning (planned burns of forest or wildlands). California has been an international leader in reducing emissions of black carbon, including programs that target reducing PM from diesel engines and burning activities (CARB 2013).

Global Warming Potential⁵³

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO₂e), which weight each gas by its global warming potential (GWP).

Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that

⁵³ Ibid, 4.3.

would occur if only CO₂ were being emitted. Based on a 100-year time horizon, Methane traps over 25 times more heat per molecule than CO₂, and N₂O absorbs roughly 298 times more heat per molecule than CO₂. Additional GHGs with high GWP include NF₃, SF₆, PFCs, and black carbon.

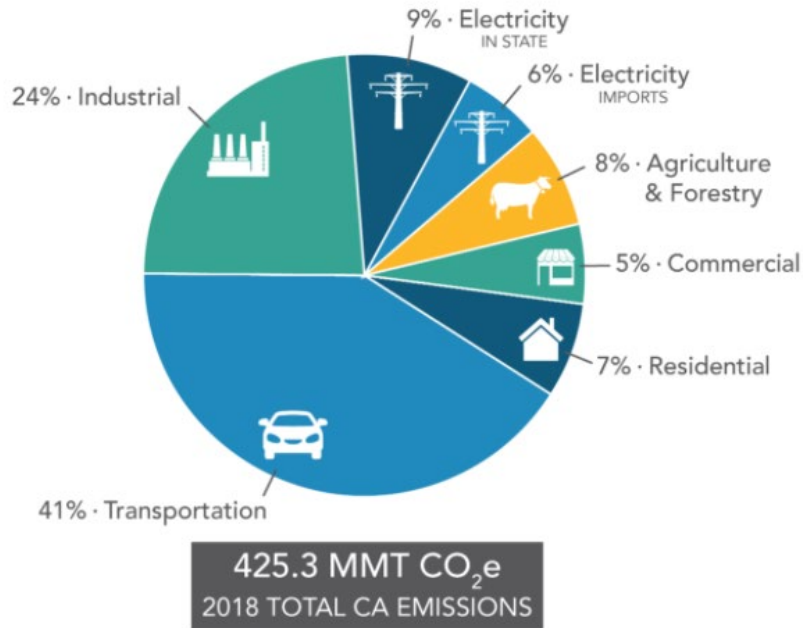
Sources of Greenhouse Gas Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.

California's most recent GHG emissions inventory is depicted in Figure 5.

Figure 5 – GHG Emissions by Economic Sector⁵⁴

⁵⁴ Ibid, 4.4.



Source: CARB 2018

In 2018, GHG emissions within California totaled 425.3 million metric tons (MMT) of CO₂e. Within California, the transportation sector is the largest contributor, accounting for approximately 41% of the total statewide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 24%. Electricity generation totaled roughly 15% (CARB 2018).

Effects of Global Climate Change⁵⁵

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada.

⁵⁵ Ibid, 4.5.

This snowpack is a principal supply of water for the state, providing roughly 50% of state's annual runoff. If this trend continues, some areas of the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. An earlier snowmelt would also impact the state's energy resources. An early exhaustion of the Sierra snowpack may force electricity producers to switch to more costly or non-renewable forms of electricity generation during spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, resultant changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

Regulatory Setting

***Federal*⁵⁶**

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

On April 2, 2007, in *Massachusetts v. USEPA*, 549 US 497, the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act (CAA). The Court held that the United States Environmental Protection Agency (USEPA) must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the USEPA is required to follow the language of Section 202(a) of the CAA.

On April 17, 2009, the USEPA Administrator signed proposed "endangerment" and "cause or contribute" findings for GHGs under Section 202(a) of the CAA. The USEPA held a 60-day public comment period, considered public comments, and issued final findings. The USEPA found that six GHGs taken in combination endanger both the public health and the public welfare of current and future generations. The USEPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the greenhouse effect as air pollution that endangers public health and welfare under CAA Section 202(a).

Clean Vehicles

In collaboration with the National Highway Traffic Safety Administration, the USEPA adopted GHG emission standards for light-duty vehicles in May 2010 and for heavy-duty vehicles in

⁵⁶ Ibid, 4.5-4.7.

August of 2011. In 2012, the agencies jointly adopted more stringent Phase 2 standards for light duty cars and trucks, which would cover model years 2017 through 2025. In August of 2016, the agencies adopted more stringent Phase 2 standards for medium- and heavy-duty vehicles, which would cover model years 2018 through 2027 for certain trailers and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required the EPA to develop "...mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy...." The Reporting Rule applies to most entities that emit 25,000 metric tons of CO₂e (MTCO₂e) or more per year. Since 2010, facility owners must submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the EPA to verify annual GHG emissions reports.

New Source Review

The EPA issued a final rule on May 13, 2010 that establishes thresholds for GHGs, which will define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units

As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output-based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

President Obama and the EPA announced the Clean Power Plan in August of 2015. In 2030, the Clean Power Plan would cut carbon pollution from power plants by 32 percent below 2005 levels

and increase renewable energy generation percent to nearly 20 percent of all power supplied. By comparison, in 2015, renewable energy accounted for about 13% of electricity generation. However, on February 9, 2016, the U.S. Supreme Court stayed implementation of the Clean Power Plan pending judicial review and on March 28, 2017, the Executive Order on Energy Independence (EO 13783) was signed and called for a review of the Clean Power Plan (USEPA 2018a). On October 16, 2017, the EPA issued the proposed rule Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units an Energy Independence (EPA 2017).

Cap-and-Trade

Cap-and-Trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. There is no federal GHG Cap-and-Trade program currently; however, some states have joined to create initiatives to provide a mechanism for Cap-and-Trade.

The Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the Cap-and-Trade program (C2ES 2015).

*State*⁵⁷

Assembly Bill 32

The California State Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “Greenhouse gases” as defined under AB 32 include CO₂, methane (CH₄), nitrogen oxides (NO_x), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs.

⁵⁷ Ibid, 4.8-4.17.

The California Air Resources Board (CARB) is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

CARB approved the 1990 GHG emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO₂e) on December 6, 2007 (CARB 2007). Therefore, to meet the state's target, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a business as usual (BAU) scenario were estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations (CARB 2008). At that rate, a 28 percent reduction was required to achieve the 427 MMTCO₂e 1990 inventory. In October 2010, CARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation is now estimated at 545 MMTCO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (CARB 2010).

Progress in Achieving Assembly Bill 32 Targets and Remaining Reductions Required

The state has made steady progress in implementing AB 32 and achieving targets included in EO S-3-05. The progress is evident in updated emission inventories prepared by CARB, which showed that the state inventory dropped below 1990 levels for the first time in 2016 (CARB 2018). CARB's Climate Change Scoping Plan (Scoping Plan) (subsequently amended by the 2017 update) includes projections indicating that the state would meet or exceed the 2020 target with adopted regulations (CARB 2017).

CARB 2008 Scoping Plan

The Scoping Plan contains measures designed to reduce the state's emissions to 1990 levels by the year 2020 to comply with AB 32 (CARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include the following:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State’s long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. Capped strategies are subject to the proposed Cap-and-Trade Program. The Scoping Plan states that the inclusion of these emissions within the Cap-and-Trade Program would help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the cap-and-trade emissions caps, and requirements are provided as a margin of safety by accounting for additional GHG emission reductions (CARB 2008).

Cap-and-Trade Program

The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a statewide limit on sources responsible for 85 percent of California’s GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Quebec’s Cap-and-Trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit would not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not

guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are guaranteed only on an accumulative basis.

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program would be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program would be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California would meet its 2020 GHG emissions reduction mandate.

CARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identified the next steps for California's climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emission reductions. The report established a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.

Assembly Bill 398

The Governor signed AB 398 on July 25, 2017, to extend the Cap-and-Trade Program to 2030. The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 to 2025 and 6 percent of their compliance obligation from 2026 through 2030. AB 398 also prevents air districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program (CARB 2017).

Senate Bill 32

Senate Bill (SB) 32 was signed into law on September 8, 2016. SB 32 gives CARB the statutory responsibility to include the 2030 target previously contained in EO B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030."

2017 Climate Change Scoping Plan Update

The 2017 Climate Change Scoping Plan Update was adopted on December 14, 2017 amending the 2008 Scoping Plan and addresses the SB 32 targets. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
 - a. Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
 - b. Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard
 - a. Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
 - a. Maintaining existing GHG standards for light- and heavy-duty vehicles.
 - b. Put 4.2 million zero-emission vehicles on the roads.
 - c. Increase zero-emission vehicles buses and delivery and other trucks.
4. Sustainable Freight Action Plan
 - a. Improve freight system efficiency.
 - b. Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
 - c. Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant Reduction Strategy
 - a. Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
 - b. Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
 - a. Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program

- a. Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
 - b. CARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, CARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in GHG emissions from the refinery sector.
 9. Develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Many of the measures included in the 2017 Climate Change Scoping Plan Update are implemented on a statewide level and do not specifically apply to the Project. However, the short-lived climate pollutants would be applicable to the Program through the use of cleaner construction equipment.

Senate Bill 375: The Sustainable Communities and Climate Protection Act of 2008

SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits more than 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

CARB has prepared the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets.

Assembly Bill 1493: Pavley Regulations and Fuel Efficiency Standards

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations and fuel efficiency standards that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by USEPA's denial of an implementation waiver. USEPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards were phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards resulted in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation, rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for AB 1493 was incorporated into Amendments to the Low-Emission Vehicle Program, referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Cars program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation would reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The rules would reduce pollutants from gasoline and diesel-powered cars and would deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles, and hydrogen fuel cell cars. The regulations would also ensure that adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

Senate Bill 1368: Emission Performance Standards

In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant.

Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the state. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of CO₂ per megawatt-hour (MWh).

Senate Bill 1078: Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed EO S-14-08, which established an RPS target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger signed EO S-21-09, which directed CARB to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. In 2011, the State Legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The legislature approved and the governor then signed SB 350 on October 7, 2015, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations.

Senate Bill 100: California Renewables Portfolio Standard Program.

The Governor approved SB 100 on September 10, 2018. The legislation revised the RPS goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill would require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

Senate Bill X7-7: The Water Conservation Act of 2009

SB X7-7 directs urban retail water suppliers to set individual 2020 per capita water use targets and to begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet of urban water use in 2020.

Executive Order S-3-05

On June 1, 2005, former California Governor Arnold Schwarzenegger announced EO S-3-05, which announced the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an EO, the goals are not legally enforceable for local governments or the private sector.

Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris in late 2015. The EO sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure that California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMTCO_{2e}. The EO also requires the state's climate adaptation plan to be updated every 3 years and for the state to continue its climate change research program, among other provisions. As with EO S-3-05, this EO is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the EO.

Executive Order S-01-07: Low Carbon Fuel Standard

The governor signed EO S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the EO established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, CARB was required to bring a new LCFS regulation for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law approved the regulation on November 16, 2015. The regulation was last amended in 2018.

Executive Order S-13-08

EO S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the EO, the 2009 California Climate Adaptation Strategy was adopted, which is the “... first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-55-18

EO B-55-18 issued by Governor Brown on September 10, 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and to achieve and maintain net negative emissions thereafter. The EO directs CARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal.

California Energy Code

Compliance with the California Energy Code (Title 24, Part 6, of the California Code of Regulations [CCR], California’s Energy Efficiency Standards) and Title 20, Public Utilities and Energy, standards must occur for all new buildings constructed in California. These efficiency standards apply to new construction of both residential and nonresidential (i.e., maintenance buildings and pump station buildings associated with the Program) buildings, and they regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit processes, and local government agencies may adopt and enforce energy standards for new buildings provided that these standards meet or exceed those provided in the Title 24 guidelines.

Regional

San Joaquin Valley Air Pollution Control District

On December 17, 2009, the San Joaquin Valley Air Pollution Control District (SJVAPCD) Governing Board adopted “Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA,” and the policy “District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.” SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climate change. SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climate change could be considered cumulatively considerable. SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

Greenhouse Gas Impact Analysis

*CEQA Guidelines*⁵⁸

The CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

This section discusses potential impacts concerning greenhouse gases associated with the proposed project and provides mitigation measures where necessary.

⁵⁸ Air Quality, Greenhouse Gas, and Energy Impact Assessment, Lombardi Development Project. Page 8.1. Prepared by Stantec Consulting Services, Inc. July 23, 2021.

Thresholds of Significance⁵⁹

The State CEQA Guidelines indicate that a project would normally have a significant adverse GHG impact if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The SJVAPCD's Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA presents a tiered approach to analyzing project significance with respect to GHG emissions. Project GHG emissions are considered less than significant if they can meet any of the following conditions, evaluated in the order presented:

- Project is exempt from CEQA requirements;
- Project complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project implements Best Performance Standards (BPS); or
- Project demonstrates that specific GHG emissions would be reduced or mitigated by at least 29 percent compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period.

On November 20, 2015, the California Supreme Court (Court) issued its decision on the Center for Biological Diversity v. California Department of Fish and Wildlife on the Newhall Ranch project case. The Court determined that there is not substantial evidence to link a specific project's achievement of CARB's Scoping Plan's statewide average reduction below BAU to the conclusion that the project's reduction would meet AB 32's 2020 goals. Furthermore, since the release of SJVAPCD's guidance, SB32 has been issued that requires the state to further reduce GHG emissions beyond the goals laid out in AB32. As a result, the 29 percent reduction in emissions as compared to a BAU standard are outdated and were not used for this analysis.

⁵⁹ Ibid, 8.1-8.3.

CEQA Guidelines 15064.4 provides guidance for determining the significance of impacts from GHGs as follows:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

- (1) Quantify greenhouse gas emissions resulting from a project; and/or*
- (2) Rely on a qualitative analysis or performance-based standards.*

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

- (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;*
- (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.*
- (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.*

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Project Threshold

The City of Porterville does not have a qualified Climate Action Plan currently. However, the Project will be required to comply with a series of state and regional GHG reduction plans, including CARB's 2017 Scoping Plan and SJVAPCD's Climate Change Action Plan (CCAP) Measures. These plans include approved GHG emission reduction plans and Project's consistent with these plans would also comply with SB32. Therefore, as SJVAPCD does not have a quantifiable emissions threshold, project significance was determined based on compliance with applicable plans to reduce GHG emissions in accordance with CEQA Guidelines 15064.4(b)(3).

Impact Analysis

Impact GHG -1: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

The following emissions estimate is consistent with CEQA Guidelines 15064.4. CalEEMod was used to estimate the Project's GHG emissions. Modeling assumptions are described in Appendix B.

Constructions Emission Inventory

Construction GHGs would be emitted by the off-road construction equipment and vehicle travel by workers and material deliveries to the project site. The estimated construction GHG emissions are shown in Table 11. Because construction GHG emissions are temporary and reduction measures are limited, a common professional practice is to amortize the construction emissions over the life of the project. A residential project is conservatively assumed to have a life of 30 years.

Table 11: Construction Greenhouse Gas Emissions⁶⁰

Construction Year	MTCO _{2e}
2021 (Phase One)	173

⁶⁰ Ibid, 8.4.

Construction Year	MTCO _{2e}
2022 (Phase One)	473
2023 (Phase Two)	696
Total	1,342
Amortized over 20 years ¹	44.7

Notes:

1. GHG emissions are amortized over the 30-year life of the proposed project.

Source: Stantec 2021, CalEEMod 2020.4.0.

Operational Emission Inventory

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential woodburning. Operational GHG emissions associated with the project were estimated using CalEEMod 2020.4.0.

Operational GHG emissions are shown in Table 12.

Table 12: Operational Greenhouse Gas Emissions⁶¹

Source	Emissions (MTCO _{2e} per year)
Phase One	
Area	57.4
Energy	344
Mobile	1,294
Waste	66.3
Water	22.7
<i>Subtotal</i>	<i>1,785</i>
Phase Two	
Area	47.1
Energy	283
Mobile	987

⁶¹ Ibid.

Source	Emissions (MTCO ₂ e per year)
Waste	54.5
Water	21.2
<i>Subtotal</i>	<i>1,392</i>
Amortized Construction Emissions	44.7
Total	3,222

Source: Stantec 2021, CalEEMod 2020.4.0 (Appendix A of Appendix B).

The proposed project's GHG impact is determined by its consistency with applicable statewide and regional GHG reduction plans. As shown in Impact GHG-2, the proposed project would be consistent with the CARB's 2017 Scoping Plan, Tulare COG's RTP/SCS, and the City's General Plan goals that aim to reduce air quality and energy (which in turn reduce GHG emissions), as such the Project will comply with applicable reduction plans and GHG emissions are less than significant.

The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; the impact is *less than significant*.

Mitigation Measures: None are required.

Impact GHG- 2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The proposed project would have a significant impact with respect to GHG emissions and global climate change if it would substantially conflict with the provisions of Section 15064.4(b) of the *CEQA Guidelines*.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if the project could conflict with applicable GHG reduction plans, policies, or regulations. Development projects would be subject to complying with SB 32, Tulare COG's RTP/SCS, and the City's applicable goals. SB 32 is a statewide reduction goal aimed at reducing emissions to 40% below 1990 levels by 2030. CARB's 2017 Scoping Plan sets a framework for the State to meet the reduction targets of SB 32.

Consistency with the Final 2017 Scoping Plan Update

CARB issued the Final 2017 Scoping Plan Update in November 2017 and establishes emissions reduction strategies necessary to meet SB 32's 2030 reduction goals. Table 13, identifies the Scoping Plan policies that are applicable to the proposed project. As shown, the proposed project would be consistent with the Scoping Plan.

Table 13: Project Consistency with Applicable 2017 Scoping Plan Greenhouse Gas Reduction Strategies⁶²

Measure Name	Measure Description	Consistency Determination
SB 350 50% Renewable Mandate.	Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	Consistent. The proposed project will purchase electricity from a utility subject to the SB 350 Renewable Mandate. In addition, the proposed project includes renewable energy through roof top solar systems.
Low Carbon Fuel Standard	This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	Consistent. Vehicles accessing the proposed project site will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario)	Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	Consistent. Future residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The 2019 CalGreen Code requires electrical service in new single-family housing to be EV charger-ready. Home deliveries will be made by increasing numbers of ZEV delivery trucks.
	The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	Consistent. SJVAPCD limits wood burning devices in new homes. Therefore, the proposed project will not generate black carbon.
SB 375 Sustainable Communities Strategies	Requires Regional Transportation Plans to include a sustainable communities' strategy for reduction of per capita vehicle miles traveled.	Consistent. The proposed project would provide housing in the region that is consistent with the growth projections in the 2018 Regional Transportation Plan/Sustainable Communities Strategy (SCS). The project is not within an SCS priority area and so is not subject to requirements applicable to those areas. Furthermore, the project site lies along Porterville Transit Line 2., which has stations along Westfield Avenue.

⁶² Ibid, 8.6-8.7.

Post-2020 Cap-and-Trade Program	The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	Consistent. The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap- and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
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Source of Measures: CARB, 2017

Source of Consistency Determination: Stantec Consulting Services Inc, 2021

Based on this evaluation, this analysis finds the project would be consistent with all feasible and applicable strategies recommended in the 2017 Scoping Plan Update.

Consistency with SJVAPCD CCAP

The SJVAPCD has adopted a CCAP, which includes suggested BPS for proposed residential development projects. Appendix J of the SJVAPCD Final Staff Report for the CCAP contains GHG reduction measures that would be applicable to the proposed project. The proposed project's consistency with these measures is included in Table 14 below. As shown in the table, the project would be consistent with applicable CCAP measures.

Table 14: Project Consistency with Applicable SJVAPCD CCAP GHG Reduction Measures⁶³

Measure Name	Measure Description	Project Consistency
Bicycle/Pedestrian Transit Measures		

⁶³ Ibid, 8.8-8.9

Measure Name	Measure Description	Project Consistency
5 – Pedestrian Network	The project provides a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities. Existing facilities are defined as those facilities that are physically constructed and ready for use prior to the first 20 percent of the projects occupancy permits being granted.	Consistent. The proposed project would provide pedestrian accommodations throughout the project site and connecting offsite to existing external streets and pedestrian facilities.
6 – Pedestrian barriers minimized	Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and nonresidential uses that impede bicycle or pedestrian circulation are eliminated. Barriers to pedestrian access of neighboring facilities and sites are minimized. This measure is not meant to prevent the limited use of barriers to ensure public safety by prohibiting access to hazardous areas, etc.	Consistent. The proposed project would provide pedestrian accommodations throughout the project site and connecting offsite to existing external streets and pedestrian facilities.
Site Design Measures		
18 - Residential Density with No Transit (3-6 Du/acre)	Project provides high-density residential development. Density is calculated by determined the number of units per acre within the residential portion of the project's net lot area.	Consistent. The Project is seeking a zone change on APN 245-010-087 from Very Low Density Residential to Low Density Residential. The site will provide 230 housing units over 56 acres of development, a density of 4.16 Du/acre.
Building Component Measures		
26 - Onsite renewable energy system	Project provides onsite renewable energy system(s).	Consistent. The 2019 California Building Energy Efficiency Standards requires that all new single-family homes and multi-family buildings under three stories must conform to the new solar code that requires the installation of rooftop solar photovoltaic systems be equipped on all new homes after January 1, 2020. Therefore, the Project will be required to comply with these standards.
Additional GHG Emission Reduction Measures Requiring Additional Investigation		
8 - Open Space	Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.	Consistent. The Project will develop a 3.5-acre park in the center of the Project site and will plant at least one tree at each lot.
11- Vehicle Idling	Limit idling for commercial vehicles, including delivery and construction vehicles.	Consistent. CARB limits idling of diesel vehicles to 5 minutes. The Project will comply as applicable.

Measure Name	Measure Description	Project Consistency
16-Energy Efficient Appliances	Install energy efficient heating and cooling systems, appliances and equipment, and control systems.	Consistent. The Project will be designed to be compliant with the 2019 California Building Standards and the California Energy Commission's regulations on home appliances.
17 - Renewable Energy Use	Install Photovoltaic roofing tiles for solar power.	Consistent. The 2019 California Building Energy Efficiency Standards requires that all new single-family homes and multi-family buildings under three stories must conform to the new solar code that requires the installation of rooftop solar photovoltaic systems be equipped on all new homes after January 1, 2020. Therefore, the Project will be required to comply with these standards.
20 - Tree Plants	Protect existing trees and encourage the planting of new trees. Adopt a tree protection and replacement ordinance, e.g., requiring that trees larger than a specified diameter that are removed to accommodate development must be replaced at a set ratio.	Consistent. The existing land uses on site are primarily agricultural and, as a result, few trees are currently on the project site. The Project will develop a 3.5-acre park in the center of the Project site and will plant at least one tree at each lot.

Source: Stantec 2021. SJVAPCD, 2009.

Consistency with Tulare COG RTP/SCS

The TCAG's 2018 RTP/SCS includes a series of goals for the region that would reduce GHG emissions based on the land use consistency and the reduction of vehicle trips. The proposed project's consistency with these measures is included in Table 15 below. As shown in the table, the project would be consistent with applicable TCAG measures.

Table 15: Project Consistency with Applicable Tulare COG Goals⁶⁴

Goals	Consistency
Provide an efficient, integrated, multi-modal transportation system for the movement of people and goods that enhance the physical, economic, and social environment in the Tulare County Region.	Not Applicable. This goal is aimed at transportation systems and local jurisdictions. The Project will not interfere with this goal and will place new residents near an existing bus station.
Encourage and support an efficient, maintained, and safe circulation network that maximizes circulations, longevity, and fiscal responsibility while minimizing environmental impacts.	Consistent. The Project will construct a new roadway network that will connect the new development to the existing roadways. The new roadways will further connect Porterville and maximize the roadway circulation.

⁶⁴ Ibid, 8.9-8.11.

Goals	Consistency
Provide a safe, secure, coordinated and efficient public transit system that can reasonably meet the needs of the residents.	Not Applicable. This goal is aimed at transportation systems and local jurisdictions. The Project will not interfere with this goal and will place new residents near an existing bus station.
Support development of a regional system of airports that meets the air commerce and general aviation needs of the county.	Not Applicable. This goal is aimed at local and regional jurisdictions. The Project will not interfere with this goal.
Promote safe, economical, convenient rail systems and schedules that meet the needs of passenger and freight services in the region.	Not Applicable. This goal is aimed at local and regional jurisdictions. The Project will not interfere with this goal.
Provide a transportation system that efficiently and effectively transports goods to, from, within, and through Tulare County.	Not Applicable. This goal is aimed at local and regional jurisdictions. The Project will not interfere with this goal.
Improve goods movement within the region to increase economic vitality, meet the growing needs of freight and passenger services, and improve traffic safety, air quality, and overall mobility.	Not Applicable. This goal is aimed at local and regional jurisdictions. The Project will not interfere with this goal.
Improve, enhance, and expand the region's bicycle and pedestrian systems and connectivity to those systems, while keeping them safe and convenient.	Consistent. The Project will add new roads through an existing agricultural area. The subdivision will connect existing roads and place new residences near existing schools. The increase in roadways and residential areas will result in more pedestrian accessible areas and walkways.
Preserve and enhance regional transportation roads and corridors.	Consistent. The Project will add new roadways and expand Porterville's existing roadway system.
Promote the improvement of air quality and greenhouse gas reductions through congestion management, coordination of land use, housing, and transportation systems, provision of alternative modes of transportation, and provision of incentives that reduce vehicle miles traveled.	Consistent. The Project will construct a new subdivision near existing single-family homes and near multiple schools. In addition, the site is adjacent to Porterville Transportation bus line 2 that will promote alternative modes of transportation and reduce vehicle miles traveled.
Promote public health opportunities for residents to bicycle and walk to destinations such as home, work, school, medical facilities, and commercial and service systems.	Consistent. The Project will add new roads through an existing agricultural area. The subdivision will connect existing roads and place new residences near existing schools. The increase in roadways and residential areas will result in more pedestrian accessible areas and walkways.

Goals	Consistency
Improve transportation mobility and operations by improving and utilizing TSM strategies, TDM measures, TCMs, and ITS programs.	Not Applicable. This goal is aimed at transportation systems and local jurisdictions. The Project will not interfere with this goal and will place new residents near an existing bus station.
Ensure that transportation investments do not discriminate on the basis of race, color, national origin, sex, age, or disability.	Not Applicable. This goal is aimed at transportation systems and local jurisdictions. The Project will not interfere with this goal.
Support the development and implementation of emerging technologies in the surface transportation system.	Not Applicable. This goal is aimed at transportation systems and local jurisdictions. The Project will not interfere with this goal.

Source: Stantec 2021. TCAG 2018.

The Project proposes to increase the density of allowable residential development on the lot and build residences near existing schools and an existing residential community. Development will place 4.15 homes/acre and allow pedestrian access and increased housing opportunities in the area. The site lies along Porterville Transit Line 2, which runs along Westfield Ave. As a result, the site will place residences in walking distance of transit and serve to further connect the areas pedestrian access while bringing students within walking distance of several schools. Finally, the Project will be required to adhere to Title 24 and the latest California Building Standards, which will require each single-family home to include photovoltaic cells. The proposed Project would not conflict with the goals and objectives of the SJVAPCD's CCAP, with CARB's 2017 Scoping Plan, or any other State or regional plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. As such, the proposed Project would not conflict with an applicable plan; therefore, impacts would be considered *less than significant*.

Mitigation Measures: None are required.

Cumulative Impacts

Less Than Cumulatively Considerable. The State of California, through AB 32, has acknowledged that GHG emissions are a statewide impact. Emissions generated by the proposed Project combined with past, present, and reasonably probable future projects could contribute to this impact. The CEQA Guidelines emphasize that effects of GHG emissions are cumulative in nature and should be analyzed in the context of CEQA's existing cumulative impacts analysis. The California Governor's Office of Planning and Research acknowledges that although climate change is cumulative in nature, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.

As discussed above, the proposed Project would not generate significant GHG emissions and would be consistent with GHG reduction plans. Therefore, the proposed Project's incremental contribution would be *less than cumulatively considerable*.

3.4 Energy Resources

Environmental Setting⁶⁵

Southern California Edison (SCE) provides electricity and The Southern California Gas Company (SoCal Gas) provides natural gas service to the City. Upon buildout of the Project site, electricity to the residential development would be provided by SCE. All electricity infrastructure would be located underground and would tie-in to existing infrastructure.

SCE serves approximately 15 million people in a 50,000 square-mile area of central, coastal, and Southern California. SCE's service area includes portions of 15 counties and hundreds of cities and communities, including Porterville. SCE has set the goal of delivering 100% carbon-free power to customers in terms of retail sales. In 2020, approximately 43 percent of retail sales came from carbon-free resources.

SoCal Gas is the nation's largest natural gas distribution utility serving more than 21 million consumers through nearly 5.9 million meters in more than 500 communities. SoCal Gas has committed to achieving net zero greenhouse gas emissions in their operations and gas delivery by 2045. In order to achieve this goal, SoCal Gas has set a number of internal standards including the goal of delivering 5% renewable natural gas by 2022 and 20% by 2030 (SoCal Gas, 2021).

Regulatory Setting

Federal⁶⁶

Federal Energy Policy and Conservation Act

The Energy and Policy Conservation Act was enacted by Congress in 1975. This Act established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards.

Energy Independence and Security Act of 2007

This Act set increased Corporate Average Fuel Economy (CAFÉ) standards for motor vehicles and includes the following provisions related to energy efficiency:

⁶⁵ Air Quality, Greenhouse Gas, and Energy Impact Assessment, Lombardi Development Project. Page 5.1. Prepared by Stantec Consulting Services, Inc. July 23, 2021. Appendix B.

⁶⁶ Ibid, 5.1-5.3.

- Renewable fuel standards (RFS)
- Appliance and lighting efficiency standards
- Building energy efficiency

This Act requires increasing levels of renewable fuels to replace petroleum. The U.S. EPA is responsible for developing and implementing regulations to ensure transportation fuel sold into the US contains a minimum volume of renewable fuel.

The RFS programs regulations were developed in collaboration with refiners, renewable fuel products, and other stakeholders and were created under the Energy Policy Act of 2005. The RFS program established the first renewable fuel volume mandate in the US. As required under the act, the original RFS program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the Act, the RFS program was expanded in several ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of the nation's renewable fuels sector. The updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline:
- EISA increase the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- EISA established new categories of renewable fuel and set separate volume requirements for each one; and
- EISA required by the U.S. EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternate energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

Federal Vehicle Standards

The Energy Policy and Conservation Act of 1975 (EPCA) mandated that the National Highway Traffic Safety Administration (NHTSA) establish and implement a regulatory program for motor vehicle fuel economy, known as the corporate average fuel economy (CAFE) program, to reduce national energy consumption. As codified in Chapter 329 of Title 49 of the U.S. Code (U.S.C.) and, as amended by the Energy Independence and Security Act of 2007 (EISA), EPCA sets forth specific requirements concerning the establishment of average fuel economy standards for

passenger cars and light trucks. These are motor vehicles with a gross vehicle weight rating less than 8,500 pounds and medium-duty passenger vehicles with a gross vehicle weight rating less than 10,000 pounds. The Secretary of Transportation delegated responsibility for implementing the CAFE program to NHTSA.

*State*⁶⁷

In addition to the myriad of GHG legislation and Executive Orders that have the cross benefit of reducing energy usage, the State also has an aggressive Energy Code.

California Energy Code

Compliance with the California Energy Code (Title 24, Part 6, of the California Code of Regulations [CCR], California's Energy Efficiency Standards) and Title 20, Public Utilities and Energy, standards must occur for all new buildings constructed in California. These efficiency standards apply to new construction of both residential and nonresidential (i.e., maintenance buildings and pump station buildings associated with the Program) buildings, and they regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit processes, and local government agencies may adopt and enforce energy standards for new buildings provided that these standards meet or exceed those provided in the Title 24 guidelines.

Local

City of Porterville

The City of Porterville General Plan's Open Space and Conservation Element includes the following policies related to energy conservation that are applicable to the proposed project.

- OSC-G-10: Reduce and conserve energy use in existing and new commercial, industrial, and public structures.

Thresholds of Significance

*CEQA Guidelines*⁶⁸

⁶⁷ Ibid, 5.3-5.4.

⁶⁸ Air Quality, Greenhouse Gas, and Energy Impact Assessment, Lombardi Development Project. Page 9.1. Prepared by Stantec Consulting Services, Inc. July 23, 2021.

The CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on energy the following must be evaluated.

Would the project:

- a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Impact Analysis

Impact Energy- 1: *Result in potentially significant environmental impact due to wasteful, inefficient, or*

The energy requirements for the proposed project were determined using the construction and operational estimates generated from the Methodology and Modeling Assumptions. The calculation worksheets for energy consumption are provided in Appendix C of Appendix B.

This impact addresses the energy consumption from both the short-term construction and long-term operations and are discussed separately below.

Short-Term Construction

Off-Road Equipment

Table 16 provides estimates of the project’s construction fuel consumption from off-road construction equipment.

Table 16: Construction Off-Road Fuel Consumption⁶⁹

Project Component	Total Annual Fuel Consumption (gallons)
Phase One Construction Off-Road Equipment	15,637
Phase Two Construction Off-Road Equipment	15,631
Total	31,268
Source: Appendix C of Appendix B.	

⁶⁹ Ibid, 9.2.

As shown in Table 16, construction activities associated with the proposed project would be estimated to consume 31,268 gallons of diesel fuel. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the state.

On-Road Vehicles

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the site during construction. Table 17 provides an estimate of the total on-road vehicle fuel usage during construction. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the state. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Table 17: Construction On-Road Fuel Consumption⁷⁰

Project Component	Average Fuel Economy (miles/gallon)	Total VMT	Total Fuel Consumption (gallons)
Phase One			
Worker Trips	26.95	437,558	17,570
Vendor Trips	9.34	115,340	12,348
Haul Trips	6.54	0	0
Phase Two			
Worker Trips	26.95	569,408	21,126
Vendor Trips	9.34	140,160	15,006
Haul Trips	6.54	0	0
Total Construction On-Road Trips		1,262,466	66,050

Notes:

Calculations use unrounded numbers; totals may not appear to sum exactly due to rounding.

VMT = vehicle miles traveled

Source: Appendix C of Appendix B

Other Construction Energy Consumption

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. As on-site construction activities would be restricted to permissible construction hours, it is anticipated that the use of construction lighting

⁷⁰ Ibid.

would be minimal. Singlewide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. Table 18 shows the energy consumption estimated for a typical 720-square-foot trailer during construction over Phase One and Phase Two. There is a gap between the end of Phase One and the start of Phase Two, it was conservatively assumed that the trailer would remain occupied and using energy during that time.

Table 18: Construction Trailer⁷¹

Project Component	Kilowatt hours per year (kWh/yr)
Construction	15,644
Source: Appendix C of Appendix B	

There are no unusual project characteristics that would necessitate the use of construction vehicles or equipment that would be less energy efficient than at comparable construction sites in other parts of the state. Therefore, it is expected that construction energy consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Long-term Operations

Transportation Energy Demand

Table 19 provides an estimate of the daily and annual fuel consumed by vehicles traveling to and from the project site. These estimates were derived using the same assumptions used in the operational air quality analysis for the proposed project. For details relating assumptions used in the calculations, please refer to Appendix C of Appendix B.

Table 19: Long-Term Operational Vehicle Fuel Consumption⁷²

Vehicle Type	Percent of Vehicle Trips	Daily VMT	Annual VMT	Average Fuel Economy (miles/gallon) ¹	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	51.0%	8,722	3,183,626	33.45	260.8	95,178
Light Trucks and Medium Duty Vehicles (LDT1, LDT2, MDV)	39.3%	6,725	2,454,614	24.24	277.5	101,270

⁷¹ Ibid, 9.3.

⁷² Ibid, 9.4.

Vehicle Type	Percent of Vehicle Trips	Daily VMT	Annual VMT	Average Fuel Economy (miles/gallon) ¹	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Light-Heavy to Heavy-Heavy Diesel Trucks (LHD1, LHD2, MHD1, HHDT)	6.7%	1,151	420,234	8.66	119.7	43,704
Motorcycles (MCY)	2.4%	403	147,037	37.84	10.6	3,885
Other (OBUS, UBUS, SBUS, MH)	0.6%	104	38,117	6.89	14.6	5,332
Total	100%	17,106	6,243,629	—	683.2	249,369
Notes: VMT = vehicle miles traveled Percent of Vehicle Trips and VMT provided by CalEEMod. "Other" consists of buses and motor homes. Source: Appendix C of Appendix B						

As shown in Table 19, annual vehicular fuel consumption is estimated to be 249,369 gallons of a combination of gasoline and diesel fuel.

Building Energy Demand

As shown in Appendix C of Appendix B the proposed Project is estimated to demand 1,849,780 kilowatt hours of electricity and 3,048,506 kilo-British Thermal Units of natural gas, respectively, on an annual basis.

It would be expected that building energy consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar buildings in the region. Current state regulatory requirements for new building construction contained in the 2019 CALGreen and Title 24 standards would increase energy efficiency and reduce energy demand in comparison to existing commercial structures, and therefore would reduce actual environmental effects associated with energy use from the proposed project. Additionally, the CALGreen and Title 24 standards have increased efficiency standards through each update. Further, the most recent CALGreen standards require single-family housing constructed after January 1, 2020 to include rooftop photovoltaic cells. The reductions from the energy generation were not accounted for in order to provide a conservative analysis.

Therefore, while the proposed project would result in increased electricity and natural gas demand, the electricity and natural gas would be consumed more efficiently and would be typical of residential development. Compliance with future building code standards would result in increased energy efficiency.

For the above reasons, energy impacts would be *less than significant*.

Mitigation Measures: None are required.

Impact Energy- 2: *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The proposed project would comply with federal, State, and local regulations aimed at reducing energy consumption. Local regulations have been developed in accordance with federal and State energy regulations, such as the California Energy Code Building Energy Efficiency Standards (CCR Title 24, Part 6), the CALGreen Code (CCR Title 24, Part 11), and SB 743, which are also aimed at reducing energy consumption.⁷³

The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The impact would be *less than significant*.

Mitigation Measures: None are required.

Cumulative Impacts

Less Than Cumulatively Considerable. Development associated with buildout of the proposed Project would require the consumption of electricity, natural gas, and vehicle fuel resources to accommodate growth. As discussed above, new development and land use turnover would be required to comply with statewide mandatory energy requirements outlined in Title 24, Part 6, of the California Code of Regulations (the CALGreen Code), which could decrease estimated electricity and natural gas consumption in new and retrofitted structures. Furthermore, energy consumed by development in the Project area would continue to be subject to the regulations described in the Regulatory Setting of this Section. For these reasons, the electrical and natural

⁷³ Ibid, 9.6.

gas energy that would be consumed by the Project is not considered unnecessary, inefficient, or wasteful. Impacts are *less than cumulatively considerable*.

3.5 Transportation

Environmental Setting

The project site is located in the northwestern part of the City of Porterville and is currently in use with agricultural activities. See Figure 2 – Site Aerial. The site is located in an urban area that provides a mix of land uses. The 56-acre Project site is bounded to the west by N. Westwood Street, to the south by W. Westfield Avenue, and to the east by N. Lombardi Street. Residential subdivisions lie to the west, east, and south. Summit Charter Academy, Lombardi Campus lies directly north, with a diagonal of the Friant-Kern Canal along the northwest corner. See Figures 1 and 2– Regional Map and Site Aerial, respectively.

The proposed Project site is approximately four miles north of the Porterville Municipal Airport.

Roadway Descriptions⁷⁴

- Henderson Avenue is a major (four-lane) east-west arterial that provides access to residential and commercial land uses. Henderson Avenue includes an interchange with State Route 65.
- Newcomb Street is a major (four-lane) north-south arterial located approximately 0.75 miles west of State Route 65. Within the study area, it provides access to generally residential land uses and Monache High School.
- Prospect Street is a north-south roadway located approximately 0.25 miles west of State Route 65. It is designated as a major (four-lane) arterial between Morton Avenue and Westfield Avenue and provides access to residential and commercial land uses within the study area.
- Westfield Street is a minor (two-lane) east-west arterial. Within the study area, Westfield Street provides access to residential land uses and Westfield Elementary School.
- Westwood Street is a major (four-lane) north-south arterial that extends across western Porterville providing access to both residences and commercial land uses. It exists as a 4-lane roadway within the project vicinity with curb and gutter along developed areas.

Regulatory Setting

Several federal regulations govern transportation issues. They include:

⁷⁴ Traffic Study, Proposed Residential Development: Westwood Street & Westfield Avenue, City of Porterville. Page 5. Prepared by Ruettgers & Schuler Civil Engineers. August 2021. Appendix C.

- Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.
- 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

State of California Transportation Department Transportation Concept Reports

Each District of the State of California Transportation Department (Caltrans) prepares a Transportation Concept Report (TCR) for every state highway or portion thereof in its jurisdiction. The TCR usually represents the first step in Caltrans' long-range corridor planning process. The purpose of the TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period, otherwise known as the "route concept" or beyond 20 years, for what is known as the "ultimate concept".

In addition, the proposed Project is being evaluated pursuant to CEQA.

City of Porterville and Tulare County

The City of Porterville and the Tulare County Regional Transportation Plan designate level of service "D" as the minimum acceptable intersection peak hour level of service standard.

City Porterville General Plan Policies

- C-G-6: Maintain acceptable levels of service and ensure that future development and the circulation system are in balance.
- C-G-7: Ensure that new development pays its fair share of the costs of transportation facilities.

- C-I-12: Continue to require that new development pay a fair share of the costs of street and other traffic and local transportation improvements based on traffic generated and impacts on traffic service levels.

Thresholds of Significance

In accordance with the CEQA Guidelines, a project impact would be considered significant if the project would:

- **Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ; or**
- **Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? ; or**
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ; or
- Result in inadequate emergency access?

Note the bolded significant thresholds are discussed below. All other thresholds have been analyzed in the Initial Study (see Appendix A) and have been determined to have no significant impact, thus the analysis of those impact areas is not repeated here.

Impact Analysis

Impact Transportation- 1: *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit; or Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

A Traffic Study was prepared for the proposed Project by Ruettgers & Schuler Civil Engineers (report date August 2021). The complete report is provided in Appendix C of this EIR. The results of the report modeling and analysis are presented in the discussion below.

Trip Generation⁷⁵

The project trip generation volumes shown in Table 20 were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017). Trip rates, equations and directional splits for ITE Land Use Code 210 Single Family Detached Housing were used to estimate project trips for weekday peak hour of adjacent street traffic based on information provided by the project applicant. The AM and PM peak hours of adjacent street traffic were determined to be between 7:15 AM and 8:15 AM, and between 4:30 PM and 5:30 PM, based on a review of two-hour AM & PM peak hour vehicle turn movement counts taken May 2021.

Table 20: Project Trip Generation⁷⁶

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	261 Dwelling Units	eq	2513	eq	25% 48	75% 143	eq	63% 161	37% 94

Trip Distribution and Assignment⁷⁷

The distribution of project peak hour trips is shown in Table 21 and represents the movement of traffic accessing the project site by direction. The project trip distribution was developed based on site location and travel patterns anticipated for the proposed land uses.

Table 21: Project Trip Distribution⁷⁸

Direction	Percent
North	10
East	50
South	35
West	5

⁷⁵ Ibid.

⁷⁶ Ibid, 6.

⁷⁷ Ibid.

⁷⁸ Ibid.

Existing and Future Traffic⁷⁹

Existing peak hour turning movement counts were obtained in May 2021 and compared to pre-COVID turning movement volumes. It was determined that no adjustment factor was necessary due to traffic being generally similar to historical count data with applicable growth rates.

Average annual growth rates ranging between 1.5 and 4.58 percent were applied to the 2021 peak hour volumes to estimate peak hour volumes for the year 2041. These growth rates were developed based on a review of historical count data and output from TCAG's regional travel demand model. Cumulative volumes were estimated based on information provided by the City of Porterville regarding build year, land use, size and location for each pending development. See Appendix C for Figures.

Intersection Analysis⁸⁰

A capacity analysis of the study intersections was conducted using Synchro 9 software from Trafficware. This software utilizes the capacity analysis methodology in the Transportation Research Board's Highway Capacity Manual 2010 (HCM 2010). The analysis was performed for each of the following traffic scenarios.

- Existing (2021)
- Existing (2021) + Project
- Future (2041)
- Future (2041) + Project

Level of service (LOS) criteria for unsignalized and signalized intersections, as defined in HCM 2010, are presented in the tables below. The City of Porterville and Tulare County Regional Transportation Plan designate LOS D as the minimum acceptable intersection peak hour level of service.

⁷⁹ Ibid, 6-7.

⁸⁰ Ibid, 13-15.

Level of Service Criteria Unsignalized Intersection

Level of Service	Average Control Delay (sec/veh)	Expected Delay to Minor Street Traffic
A	≤ 10	Little or no delay
B	> 10 and ≤ 15	Short delays
C	> 15 and ≤ 25	Average delays
D	> 25 and ≤ 35	Long delays
E	> 35 and ≤ 50	Very long delays
F	> 50	Extreme delays

Level of Service Criteria Signalized Intersections

Level of Service	Average Control Delay (sec/veh)	Volume-to-Capacity Ratio
A	≤ 10	< 0.60
B	> 10 and ≤ 20	0.61 - 0.70
C	> 20 and ≤ 35	0.71 - 0.80
D	> 35 and ≤ 55	0.81 - 0.90
E	> 55 and ≤ 80	0.91 - 1.00
F	> 80	> 1.00

Peak hour level of service for the study intersections is presented in Tables 22 and 23. Intersection delay in seconds per vehicle is shown within parentheses for intersections operating below LOS D.

Table 22: Intersection Level of Service Weekday PM Peak Hour⁸¹

#	Intersection	Control	2021	2021+ Project	2041	2041+ Project	2040+ Project w/Mitigation ¹
1	Westwood St & Westfield Ave	AWSC	A	B	B	C	B ²
2	Lombardi St & Westfield Ave	SB	B	B	B	C	B ²
3	Matthew St & Westfield Ave	AWSC	A	A	B	B	C ²
4	Newcomb St & Westfield Ave	Signal	B	C	C	C	-

⁸¹ Ibid, 14.

#	Intersection	Control	2021	2021+ Project	2041	2041+ Project	2040+ Project w/Mitigation ¹
5	Westwood St & Henderson Ave	Signal	C	C	C	D	D ²
6	Newcomb St & Henderson Ave	Signal	C	C	D	D	-
7	Prospect St & Henderson Ave	Signal	D	D	D	D	-

¹See Table 27 for mitigation measures²Mitigation necessary due to AM Peak Hour traffic**Table 23: Intersection Level of Service Weekday AM Peak Hour ⁸²**

#	Intersection	Control	2021	2021+ Project	2041	2041+ Project	2040+ Project w/Mitigation ¹
1	Westwood St & Westfield Ave	AWSC	B	C	F (55.0)	F (62.1)	B
2	Lombardi St & Westfield Ave	SB	B	C	D	F (51.1)	C
3	Matthew St & Westfield Ave	AWSC	B	B	E (38.9)	E (48.8)	B
4	Newcomb St & Westfield Ave	Signal	B	B	C	C	-
5	Westwood St & Henderson Ave	Signal	C	C	E (57.7)	E (59.8)	D
6	Newcomb St & Henderson Ave	Signal	C	C	D	D	-
7	Prospect St & Henderson Ave	Signal	C	C	C	C	-

¹See Table 27 for mitigation measures

Traffic Signal Warrant Analysis

Peak hour signal warrants were evaluated for the one unsignalized intersection within the study based on the 2014 California Manual on Uniform Traffic Control Devices (2014 CA MUTCD). Peak hour signal warrants assess delay to traffic on minor street approaches when entering or crossing a major street. Signal warrant analysis results are shown in Tables 24 and 25.

⁸² Ibid, 15.

Table 24: Traffic Signal Warrants Weekday PM Peak Hour⁸³

#	Intersection	2021			2021+Project			2041			2041+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Westwood St at Westfield Ave	480	111	NO	563	134	NO	713	165	NO	796	188	YES
2	Lombardi St at Westfield Ave	342	85	NO	476	117	NO	508	156	NO	642	188	YES
3	Matthew St at Westfield Ave	321	102	NO	458	118	NO	476	214	NO	613	230	YES

Table 25: Traffic Signal Warrants Weekday AM Peak Hour⁸⁴

#	Intersection	2021			2021+Project			2041			2041+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Westwood St at Westfield Ave	599	242	YES	660	264	YES	890	360	YES	951	382	YES
2	Lombardi St at Westfield Ave	551	112	NO	626	161	NO	818	206	YES	893	255	YES
3	Matthew St at Westfield Ave	437	163	NO	546	168	NO	649	341	YES	758	346	YES

It is important to note that a signal warrant defines the minimum condition under which signalization of an intersection might be warranted. Meeting this threshold does not suggest traffic signals are required, but rather, that other traffic factors and conditions be considered in order to determine whether signals are truly justified.

It is also noted that signal warrants do not necessarily correlate with level of service. An intersection may satisfy a signal warrant condition and operate at or above an acceptable level of service, or operate below an acceptable level of service and not meet signal warrant criteria.

Roadway Analysis⁸⁵

An analysis of peak hour level of service for roadway segments within the study area was conducted using HCS software from McTrans. This software utilizes the capacity analysis methodology contained in HCM 2010. The analysis was performed for the following traffic scenarios:

⁸³ Ibid, 16.

⁸⁴ Ibid.

⁸⁵ Ibid, 18.

- Existing (2021)
- Existing (2021) + Project
- Future (2041)
- Future (2041) + Project

Level of service analysis results are presented in Table 26. The City of Porterville and Tulare County Regional Transportation Plan designate LOS D as the minimum acceptable level of service for roadways.

Table 26: Roadway Level of Service⁸⁶

Street	2021 Directional LOS		2021+Project Directional LOS		2041 Directional LOS		2041+Project Directional LOS		2035+Project w/Mitigation ¹ Directional LOS	
	N or E AM/PM	S or W AM/PM	N or E AM/PM	S or W AM/PM	N or E AM/PM	S or W AM/PM	N or E AM/PM	S or W AM/PM	N or E AM/PM	S or W AM/PM
Henderson Ave: Westwood St - Newcomb St	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A	-	-
Henderson Ave: Newcomb St - Prospect St	A/A	A/A	A/A	A/A	A/B	A/B	A/B	A/B	-	-
Newcomb St: Westfield Ave - Henderson Ave	C/C	C/C	C/C	C/C	E/D	E/D	E/D	E/D	A/A	B/A
Westfield Ave: Westwood St - Lombardi St	B/A	B/A	B/B	B/B	C/B	C/B	C/B	C/B	-	-
Westfield Ave: Lombardi St - Matthew St	B/B	B/B	B/B	B/B	C/B	C/B	C/B	C/C	-	-
Westwood St: Westfield Ave - Henderson Ave	C/B	C/B	C/B	C/B	E/C	E/C	E/C	E/C	B/A	B/A

Intersection and Roadway Mitigation⁸⁷

Intersection and roadway segment improvements needed by the year 2041 to maintain or improve the operational level of service of the street system in the vicinity of the project are presented in Tables 27 & 28, respectively. Shown also is the project's percent share of the cost for these improvements.

Table 27: Future Intersection Improvements and Local Mitigation⁸⁸

#	Intersection	Mitigation Required by 2041	Percent Share
1	Westwood St & Westfield Ave	Install Traffic Signal	26.88%
2	Lombardi St & Westfield Ave	Install Traffic Signal	41.19%
3	Matthew St & Westfield Ave	Install Traffic Signal	31.55%

⁸⁶ Ibid.

⁸⁷ Ibid, 19.

⁸⁸ Ibid.

#	Intersection	Mitigation Required by 2041	Percent Share
5	Westwood St & Henderson Ave	Modify Northbound Right Turn Lane to a Shared Northbound Through Left Turn Lane – Striping Modification Only	5.40%

Table 28: Future Roadway Improvements and Local Mitigation⁸⁹

Roadway Segment	Mitigation Required by 2041	Percent Share
Newcomb St: Westfield Ave – Henderson Ave	Add Two Lanes	11.08%
Westwood St: Westfield Ave – Henderson Ave	Add Two Lanes	7.87%

Project percent share is calculated using the following formula:

$$\% \text{ Share} = \frac{\text{Project Traffic}}{(\text{Future} + \text{Project Traffic}) - \text{Existing Traffic}} \times 100\%$$

In summary, all eight study intersections currently operate at or above LOS D during peak hours with and without project traffic. In the future 2041 scenario, four intersections fall below LOS D and will require mitigation. With the addition of the mitigation measures identified in Table 27, all intersections will operate at acceptable levels.

All roadway segments within the scope of the study currently operate above LOS D during peak hours prior to, and with the addition of project traffic. Two roadway segments are anticipated to fall below an acceptable level of service in the year 2041 prior to the addition of project traffic as shown in Table 26. Both roadway segments can be mitigated to operate above a LOS D with improvements shown in Table 28. As such, potential impacts will be *less than significant with mitigation incorporation*.

Mitigation Measures:

TRA-1

The Applicant shall pay the City of Porterville for their Fair Share Portion of the intersection and roadway segment improvements described in Tables 27 and 28, in order to maintain or improve the operational level of service of the street system in the project vicinity.

⁸⁹ Ibid.

Impact Transportation- 2: *Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

An evaluation of vehicle miles traveled (VMT) for project traffic was conducted in accordance with California Environmental Quality Act (CEQA) requirements. On September 21, 2021 the Porterville City Council adopted the “County of Tulare SB 743 Guidelines”, which contain recommendations regarding VMT assessment along with, significance thresholds and mitigation measures.

Baseline VMT was determined utilizing data from the California Statewide Travel Demand Model (CSTDm). The proposed residential project is located in Traffic Analysis Zone (TAZ) 2729, which has an average VMT/capita of 8.09 miles. The proposed residential project is considered a typical project within the TAZ and therefore the project would be expected to have the same VMT per capita. There are no special considerations with the project to assume the project would produce a VMT/capita lower than the average for the TAZ. The threshold of significance for residential project VMT/capita is if the project VMT is below the average in the TAZ where the project is located. Since VMT/capita is assumed to be equal to the average for the aforementioned zone, it is anticipated that the proposed project will have a significant transportation impact prior to mitigation.

The Tulare County guidelines include detailed instructions for mitigation if a project has significant impacts. The guidelines state “The preferred method of VMT mitigation in Tulare County is for project applicants to provide transportation improvements that facilitate travel by walking, bicycling, or transit.” In accordance with these guidelines, a survey was conducted within a half mile of the project to determine any pedestrian, bicycle or transit facilities deficiencies exist. After review, the existing bus stop located along Westfield Avenue was identified as a facility which could be improved to encourage increased transit use. The current bus stop does not include any improvements. The proposed improvements will include a new shelter, bench, signage and improved bus pullout. Total project cost is estimated at approximately \$60,000. The guidelines include a minimum cost for mitigation of \$20 per daily trip generated by the project. As shown in Table 20, the project is anticipated to generate 2,513 daily trips, which equates to a target value of improvements of \$50,260.

Pursuant to the guidelines, if a project provides mitigation which meets the minimum threshold listed above, the project can presume a 1% reduction in VMT. The assumed VMT/capita reduction is 1% of 8.09 or 0.08. The resulting VMT/capita after mitigation is 8.01 which is below

the average VMT/capita in the TAZ which the project is located. As such, impacts relating to VMT will be *less than significant with mitigation incorporation*.

Mitigation Measures:**TRA-2**

The project developer shall pay a total of \$50,260 in improvement fees, prior to issuance of building permits, to the City of Porterville to improve the existing bus stop at Westfield Avenue and Lombardi Street.

Cumulative Impacts

Cumulative transportation impacts were evaluated under the Cumulative Year 2041 Plus Project Scenario in Impact Traffic-1, beginning on page 3-95 of this Chapter. Implementation of Mitigation Measures TRA-1 and TRA-2 will reduce all impacts to less than significant. As such, cumulative impacts are also considered *less than significant with mitigation incorporation*.

Chapter 4

ALTERNATIVES

PROJECT ALTERNATIVES

4.1 Introduction

CEQA Guidelines Section 15126.6 requires the consideration of a range of reasonable alternatives to the proposed project that could feasibly attain most of the objectives of the proposed project. The Guidelines further require that the discussion focuses on alternatives capable of eliminating significant adverse impacts of the project or reducing them to a less-than-significant level, even if the alternative would not fully attain the project objectives or would be more costly. According to the CEQA Guidelines, the range of alternatives required in an EIR is governed by the “rule of reason” that requires an EIR to evaluate only those alternatives necessary to permit a reasoned choice. An EIR need not consider alternatives that have effects that cannot be reasonably ascertained and/or are remote and speculative.

4.2 Project Objectives and Significant Impacts

The project objectives are as follows:

- To provide housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area.
- To provide a sense of community and walkability within the development through the use of street patterns, a park, landscaping and other project amenities.
- To provide a residential development that is compatible with surrounding land uses and is near major services.
- To provide an economically feasible residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.

Based on the rule of reason as set forth in the CEQA Guidelines Section 15126.6, the only alternatives that should be analyzed in the EIR are those that are capable of eliminating or substantially reducing significant adverse environmental impacts. The results of the analysis in this EIR and accompanying IS indicate that the proposed Project would not result in any significant environmental impacts; therefore, no alternative development scenarios are evaluated.

4.3 No Project

CEQA Section 15126.6(e) requires the discussion of the No Project Alternative “to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.” The No Project scenario in this case consists of retaining the property in its original configuration, with no construction or operation of the proposed residential subdivision and no annexation of the abutting school or rural residences. Under this alternative, no new development would occur on the site.

This alternative would avoid both the adverse and beneficial effects of the project. This alternative would avoid site-disturbance and construction-related impacts associated with construction of the proposed development. The No Project Alternative would avoid the generation of any environmental impacts; however, none of the impacts of the Project as proposed are considered significant. This alternative would not meet the project’s objectives, including to provide housing opportunities that will assist the City in meeting its General Plan and Housing Element requirements and objectives.

Chapter 5

CEQA CONSIDERATIONS

CEQA CONSIDERATIONS

5.1 Growth-Inducing Impacts

CEQA Guidelines Section 15126 (d) requires an EIR to address any growth-inducing aspect of a project. This discussion includes consideration of ways in which the proposed Project could directly or indirectly foster economic or population growth with the construction of a residential development project in the surrounding area. Projects which could remove obstacles to population growth (such as a major public service expansion) are also considered in this discussion.

The proposed Project includes the construction of a 230 unit residential development and park which will be accommodated through an annexation, General Plan Amendment, Rezone and a Tentative Subdivision Map. The development will connect to all City services.

According to the Porterville 2030 General Plan, over the past 30 years, the City of Porterville's population has grown at an average annual rate of 3.7 percent. However, the City's population growth slowed to an average annual rate of 2.8 percent over the most recent 15 years. In 2006, the California Department of Finance (DOF) estimated the City with a population of 45,220 residents. In 2010, the City had an estimated population of 54,165 residents. In 2011 the City grew to 54,676 residents, while the City recorded an approximate population of 55,490 in 2012. According to the most recent California DOF report¹, the City currently is at approximately 59,571 residents, a 7.35 percent increase from 2012. Build-out of the 2030 General Plan will accommodate a population of approximately 107,300 in Porterville, which represents an annual population growth rate of 3.7 percent.

The proposed Project would create a relatively minor amount of employment opportunities during project construction; however, those positions would likely be readily filled by the existing employment base, given the 11% unemployment rate in the Visalia-Porterville Metropolitan statistical area².

¹ State of California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State – January 1, 2020 and 2021. <https://www.dof.ca.gov/forecasting/demographics/estimates/e-1/>. Accessed May 2021.

² U.S Bureau of Labor Statistics. Economy at a Glance, June 2021. Visalia – Porterville, Ca. https://www.bls.gov/eag/eag.ca_visalia_msa.htm. Accessed August 2021.

The proposed Project would include the construction of up to 230 single-family residences, internal streets, and a park, which would result in approximately 885 additional residents based on the estimated 3.39 persons per household for the City of Porterville, which would increase the City's population by approximately 1.5% at full buildout. The site is within the Porterville Planning Area of the General Plan and as such, residential site development is expected and has been planned for. The proposed Project would not result in significant unplanned growth-inducing impacts.

Conclusion

The project would have *less than significant* growth-inducing impacts.

5.2 Irreversible Environmental Changes

Section 15126(f) requires that an EIR include a discussion of significant irreversible environmental changes that would result from project implementation. CEQA Guidelines Section 15126.2(c) defines irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents.

Irreversible changes associated with the project include the use of nonrenewable resources during construction, including concrete, plastic, and petroleum products. During the operational phase of the proposed Project, energy would be used for lighting, heating, cooling, and other residential requirements. The use of these resources would not be substantial and would not constitute a significant effect, as described in Impact Energy-1 in Section 3.4 of this EIR.

Conclusion

The project would have *less than significant* irreversible environmental changes.

5.3 Significant and Unavoidable Impacts

Based on the analysis in this EIR and the accompanying Initial Study (Appendix A), the proposed Project would not result in any significant unavoidable impacts.

Conclusion

The proposed Project would not have any significant unavoidable impacts.

Chapter 6

PREPARERS

PREPARERS

6.1 List of Preparers

City of Porterville

- Jason Ridenour, Community Development Director
- Troy Andres, Planner
- Jeff O'Neal, Contract City Planner

Crawford & Bowen Planning, Inc. (EIR Consultants)

- Travis Crawford, AICP, Principal Environmental Planner
- Emily Bowen, LEED AP, Principal Environmental Planner
- Caroline Gibbons, Assistant Planner

Stantec (Air Quality, Greenhouse Gas, and Energy Impact Assessment)

Ruetters & Schuler (Traffic Impact Study)

6.2 Persons and Agencies Consulted

- Air Resources Board
- Caltrans District #6
- Fish & Game Region #4
- Office of Historic Preservation Office
- Regional Water Quality Control Board